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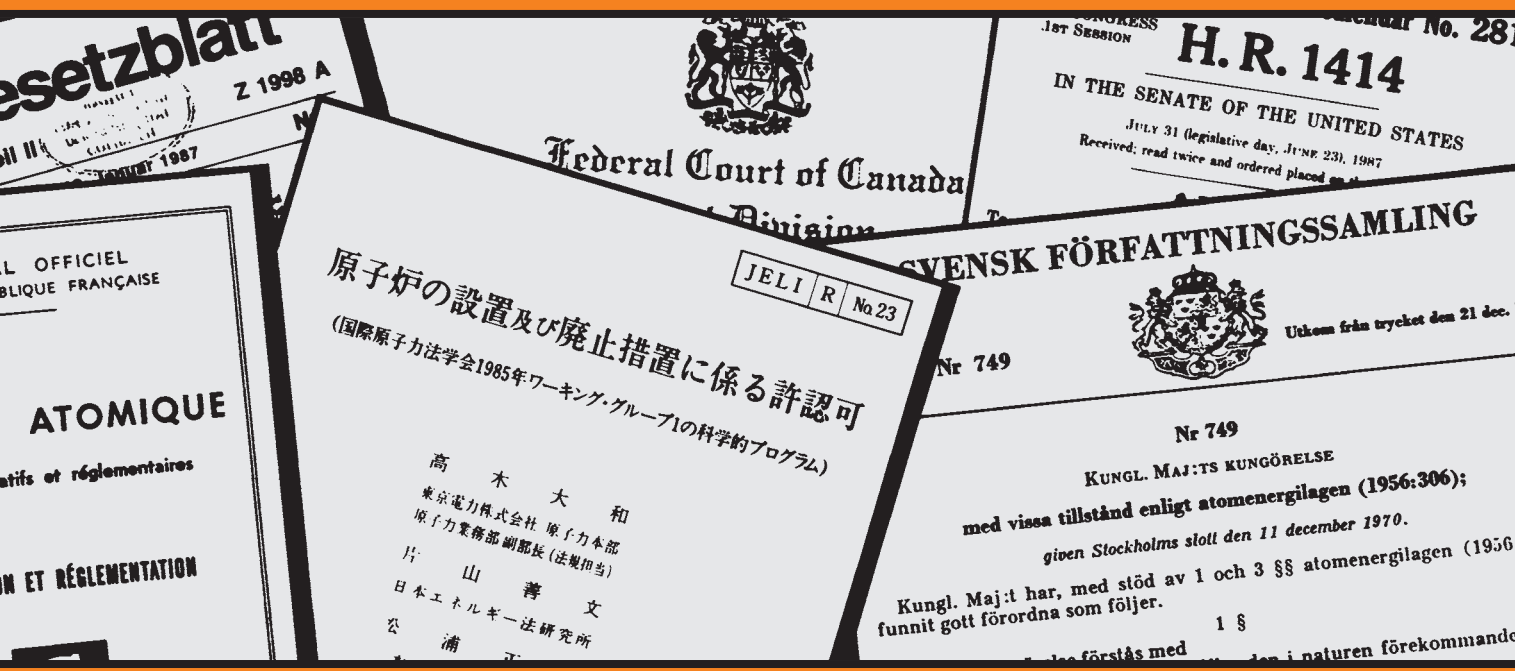

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Contents

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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), Korea (12th December 1996) and the Slovak Republic (14 December 2000). 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 27 OECD Member countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Republic of Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its Member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

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

DETAILED TABLE OF CONTENTS

ARTICLES

How current are Euratom provisions on nuclear supply and ownership in view of the European Union's enlargement?

by André Bouquet*

1. Introduction

This contribution is mainly based on two papers presented at nuclear law conferences in 1998[1] and 2001,[2] respectively setting out the special provisions governing supplies of nuclear fuels to the European Union (Chapter 6 of the Treaty establishing the European Atomic Energy Community, hereinafter referred to as the "Euratom Treaty") and the right of ownership of the Euratom Community (Chapter 8 of the Euratom Treaty). These special Treaty provisions cannot be compared to anything observed in other legal systems. Hence, with their introduction into the legal systems of the new European Union member states, the question arises as to how current these provisions are and how they have been implemented in practice.

Two of the fundamental objectives of the Euratom Treaty most relevant in this field are to ensure that all users in the Community receive a regular and equitable supply of ores and nuclear fuels (Article 2d Euratom) and to exercise the Community's right of ownership with respect to special fissile materials (Article 2f Euratom).

Furthermore, the objectives of ensuring the establishment of the basic installations necessary for the development of nuclear energy in the Community (Article 2c Euratom), of safeguarding that material is not diverted from its intended use (Article 2e Euratom), of establishing a common market (Article 2g Euratom) and of maintaining external relations (Article 2h Euratom) can be relevant to nuclear trade and to the Supply Agency's action.

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* Mr. Bouquet is Principal Administrator at the Euratom Supply Agency. This contribution sets out the views of the author and in no way commits the Euratom Supply Agency or the European Commission.

1. BOUQUET, A., "Nuclear Supply Provisions in the European Union" presented at the Advanced Training Seminar on the Rules governing International Transfers of Nuclear and Nuclear-Related Material, Equipment and Technology, and the Transport of Radioactive Materials, organised by the OECD Nuclear Energy Agency in Tallinn, Estonia, from 24 to 28 August 1998.

2. BOUQUET, A., "The mysteries of the Euratom Community's ownership right", presented at Nuclear Inter Jura 2001, organised by the International Nuclear Law Association in Budapest in June 2001, not yet published.

The Treaty's philosophy with regard to supply and ownership is the result of a delicate compromise between public authority interventionism and a more free market approach. The interventionism resulted in a monopolistic system of supplies (exclusive right to conclude contracts, right of option, public authority ownership), whereas the free market approach brought about the commercial organisation of the entity responsible for the implementation of supply provisions (separate legal entity, market economy pricing), and also resulted in the users being allowed to have an unlimited right of use and consumption. This system, still rather monopolistic, has been simplified somewhat further, since the beginning, by the introduction of simplified procedures allowing parties to negotiate their contracts themselves, subject to Agency approval (see *infra*).

The supply system as provided for by the Euratom Treaty has not only been designed to intervene effectively in the event of scarcity of nuclear supplies (as was anticipated by most observers) but it can also be applied in the event of an over-supply crisis. Indeed both scarcity and over-supply would be detrimental to the security of supply and viability objectives of the Treaty, and could therefore require corrective action to defend supply stability (see *infra* point 3.6.2).

2. Historical background[3]

For the good understanding of Chapters 6 and 8 of the Euratom Treaty it should always be recalled that, although the proposals were tabled by the French delegation[4] and were not very well received by Germany for reasons of free market philosophy, it was in fact not really a European invention.

France strongly supported the centralised Euratom proposal with a supply monopoly and public ownership of all nuclear materials, while the five other partners merely accepted, rather reluctantly, Euratom as a *quid pro quo* for French support for the European Economic Community and its Common Market. On the other hand, some parts of French governmental circles, in particular the *Commissariat à l'énergie atomique*,[5] were less supportive of the highly supranational characteristics of the Euratom construction as a step to full integration, whereas from this standpoint, Euratom was more

3. On the negotiation of the EAEC Treaty (Euratom), see GUILLEN, P., *"La France et la négociation du Traité Euratom"*, in *L'énergie nucléaire en Europe, Des origines à Euratom*, Euroclio, Bern, 1994, p. 111-129, GUILLEN, P., *"La France et la négociation des traités de Rome: l'Euratom"*, and WEILEMANN, P., *"Die Deutsche Haltung während der Euratom-Verhandlungen"*, both in SERRA, E., *et al*, *Il rilancio dell'Europa e I Trattati di Roma*, Bruylant, Brussels, p. 513-524 and p. 531-545, MANIG, W., *Die Änderung der Versorgungs- und Sicherheitsvorschriften des Euratom-Vertrages durch die nachfolgende Praxis*, Baden-Baden, Nomos, 1992, p. 28-48, GOLDSCHMIDT, B., *Le complexe atomique*, p. 304-319, PINEAU, C., and RIMBAUT, C., *Le grand pari, l'aventure du Traité de Rome*, Fayard, 1991, p. 237; HAEDRICH, H., *"Vertrag zur Grundung der Europäischen Atomgemeinschaft (Euratom) Kommentar Artikel* 86-92, *Kapittel VIII Eigentum*", in VON DER GROEBEN, THIESING, EHLERMANN, *Handbuch des Europäischen Rechts*, Baden-Baden, Nomos, Band 19, No. III A 49, *Vorbemerkung zu Artikel* 86-91, Nos. 7-8, and DOMSDORF, E., *Internationaal atoomeneregierecht*, 1993, p. 618.

4. Proposals of 3 December 1956 and of 19 September 1956 (Doc. MAE 675 f/56 and Doc. MAE 279 f/56), quoted in NERI, S., and SPERL, H., *Travaux préparatoires.*, p. 164 and 250.

5. GOLDSCHMIDT, B., *Le complexe atomique*, p. 310, testifies how, disrespectfully, they called Euratom "*Le Raton*" (the little rat).

acceptable to Germany and the others. During the treaty negotiations, ownership was considered as one of the central pieces of this integrated system.[6]

The concept itself of a centralised public authority supply and ownership monopoly for nuclear materials (with the possibility of use by private users) was in fact mainly inspired by Section 52 of the United States Atomic Energy Act of 1954,[7] as was applicable at that time, and which provided that in essence only a public authority can own nuclear material. It has been reported that the United States diplomacy exercised decisive influence during the negotiation of the Euratom Treaty, and in particular that the United States submitted a memorandum to impose a system of centralised supply and ownership[8] as a pre-condition for United States supplies of enriched uranium to the new Community, or before it could accept the new centralised Euratom safeguards system instead of imposing a bilateral system of United States inspections abroad.[9] The understanding that Euratom ownership was seen as a pre-condition for supplies of equipment and materials from the United States was admitted throughout the negotiations and was stated explicitly during the ratification debate before the German Parliament.[10] And indeed, in 1958, shortly after the entry into force of the Euratom Treaty, the first co-operation agreement[11] could be concluded with the United States providing for a recognition of Euratom's safeguards, ownership and supply system and hence allowing supplies to take place.

In the meantime, the United States provisions on ownership were repealed in 1964, by the Private Ownership of Special Nuclear Materials Act,[12] but the ownership provisions of the Euratom Treaty were not amended. Consequently, one of the main reasons why Euratom ownership existed disappeared, but the ownership system itself is still part of primary European Union law. According to consistent case law of the E.C.J., treaty provisions cannot be presumed to have lapsed.[13] Furthermore,

6. Ruling of the Court of 14 November 1978 pursuant to the third paragraph of Article 103 of the EAEC Treaty (Ruling 1/78, Draft Convention of the International Atomic Energy Agency on the Physical Protection of Nuclear Materials, Facilities and Transports), European Court Reports (ECR) 1978, p. 2151, point 25: "It is well known that the ideas contained in chapter VIII were one of the major issues in the negotiations which led to the creation of the EAEC; [...]"

7. "All special nuclear material [...] shall be the property of the United States", quoted by DOMSDORF, E., *Internationaal atoomeneregierecht,* 1993, p. 618, and by MANIG, W., *Die Änderung der Versorgungs- und Sicherheitsvorschriften des Euratom-Vertrages durch die nachfolgende Praxis,* p. 37.

8. GOLDSCHMIDT, B., *Le complexe atomique,* p. 308-309, and DOMSDORF, E., *Internationaal atoomeneregierecht,* 1993, p. 618.

9. It should be recalled that at that time the Non Proliferation Treaty was not yet in existence, no IAEA safeguards system was in place and bilateral safeguards inspections were performed abroad by some exporting countries, especially the United States.

10. NERI, S., and SPERL, H., *Travaux préparatoires,* p. 252.

11. Agreement between the European Atomic Energy Community (Euratom) and the Government of the United States of America of 29 May and 18 June 1958 (framework offer to co-operate) and Agreement for co-operation between the Government of the United States of America and the European Atomic Energy Community (Euratom) concerning peaceful uses of atomic energy of 8 November 1958, Official Journal of the European Communities (OJ) No. 17, 19.3.1959 p. 309 and 312 (no English translation). The co-operation agreement has been completed and amended by additional programmes on 11 June 1960, 21-22 May 1962, 22-27 August 1963, 20 September 1972 and 9 August 1972. It has since expired. See for the background GOLDSCHMIDT, B., *Le complexe atomique*, p. 323-327.

12. Public Law 88-489, mentioned by DOMSDORF, E., in *Internationaal atoomeneregierecht,* 1993, p. 619.

13. Court of Justice, 14 December 1971, case 7/71, Commission/French Republic, ECR 1971, p. 1003, This case concerned the provisions of Chapter 6, which France claimed had lapsed (became null and void) as they have not been confirmed by the Council under Article 76 of the Euratom Treaty.

an autonomous treaty revision under Article 90 Euratom has not been decided by the Council, and is not to be expected. Therefore, for the foreseeable future, nuclear operators, in particular in acceding countries, will have to live with the existing system.

Similarly, some have argued that, because the scarcity of nuclear materials did not materialise, Chapter 6 needs to be revised. In addition, a certain Member State politically contested the supranational influence Euratom could exercise. Hence several attempts have been made to revise, under the autonomous Treaty revision procedure of Article 76 Euratom,[14] the provisions of Chapter 6 of the Euratom Treaty,[15] but without success. Given that the second paragraph of Article 76 provides for a decision to confirm or revise Chapter 6 "seven years after the entry into force of this Treaty", some have supported the idea that following that point in time, Chapter 6 had lapsed (became null and void), but the Court[16] rejected that view and concluded that the provisions of Chapter 6 remain in force, albeit on a temporary basis, until confirmed or revised. This does not prevent, however, the introduction of simplified procedures in the Agency's rules (see *infra* point 3.3.2).

3. The Supply provisions of the Euratom Treaty

3.1 Exclusive character of the supply provisions

The Treaty provides for a "common supply policy" (Article 52, paragraph 1, Euratom). The concept of a "common policy" normally refers to a comprehensive set of rules under which the Community has exclusive powers and conducts its policy in a certain field. There are only a limited number of such policies, for example the "Common Agricultural Policy" (Articles 32 to 38 of the EC Treaty), the "Common Transport Policy" (Articles 70 to 80 of the EC Treaty),[17] the "Common

14. Acting on the initiative of a Member State or of the Commission, the Council can amend, by unanimous decision, the provisions of that Chapter, without going through a complete treaty revision procedure which has to be ratified by each Member State. Other autonomous revision procedures of the Euratom Treaty are Article 85 for Chapter 7 (Safeguards) and Article 90 for Chapter 8 (Ownership).

15. Proposals were made by the Commission in 1964 as amended in 1970, and 1982 as amended in 1984; in 1979 France requested new Commission proposals. See OJ 1965, p. 1991/65, OJ No. C 124, 17.12.1971, p. 7, Commission Document COM(82)732 final, OJ No. C 330, 16.12.1982, Commission Document COM(84)606 final. In a resolution of 24 May 1984 the European Parliament declined to comment in detail on the proposal (OJ No. C 172, 2.7.1984, p. 152). In a reply to a parliamentary question, the Commission mentioned this proposal among those on which the Council would in principle be obliged to act, but as in the meantime the existing provisions remain applicable, this failure to act was not comparable to other areas (OJ No. C 99, 28.4.1986, p. 2). For comments on the proposals see LOOSCH, R., "*Der Vorschlag der Euratom Kommission zur Neuregelung der Versorgungsvorschriften des Kapitels VI im Zweiten Titel des Euratom-Vertrages*", *Europarecht*, 1966, p. 296, and ALLEN, D., "The Euratom Treaty, Chapter VI: New hope or false dawn?", *Common Market Law Review*, 1983, p. 473.

16. Court of Justice Judgement of 14 December 1971, case 7/71, Commission/France, ECR 1971, p. 1003, points 16-29, in particular point 18: "It cannot be presumed that provisions of the treaty have lapsed". Conclusions by Advocate General Roemer are along the same lines. For annotations see RUZIÉ, D., *La Semaine Juridique – édition générale*, 1972, II 17115, HEBERT, J., *Revue Trimestrielle de Droit Européen*, 1972, p. 299-342, GRUBER, E., *Atomwirtschaft*, 1972, p. 221-222, CONSTANTINESCO, V., *Journal du Droit International*, 1973, p. 539-547, and BRUSCH, P., *California Western International Law Journal*, 1973-74, p. 43-60.

17. The European Parliament initiated an action for failure to act against the Council for not having set up a common policy, which was partly granted by the Court (see Court of Justice Judgement of 22 May 1985, case 13/83, European Parliament/Council, ECR 1985, p. 1513).

Commercial Policy" (Articles 131 to 134 of the EC Treaty), and the Common Competition Policy (Articles 81 to 89 of the EC Treaty).[18] Albeit on a different scale, the Euratom Treaty's supply rules, taken together with other provisions, correspond to that concept (a monopolistic system of contract conclusion, right of option and ownership, intervention in pricing, illustrative nuclear programmes, incentives for prospection and joint undertakings, emergency and commercial stocks).

In practice, however, with the simplified procedure and given the fact that some instruments are not used, one could say that merely a part of such a common policy has been implemented. But in any case the core provisions of the Treaty (exclusive right to conclude contracts) have been applied effectively and the other provisions, whose active implementation was not necessary in the prevailing market situation, can always be implemented if needed (stockpiles, prospection, right of option). In its ruling with regard to the conclusion by the Community of the International Atomic Energy Agency's Convention on the Physical Protection of Nuclear Materials the Court underlined how the supply provisions of the Euratom Treaty "show the care taken in the treaty to define in a precise and binding manner the exclusive right exercised by the Community in the field of nuclear supply in both internal and external relations".[19]

3.2 The Supply Agency[20]

To achieve the general objective of ensuring nuclear fuel supplies, the Treaty provides for a specialised agency, the Euratom Supply Agency, which is operative since 1 June 1960,[21] and has as its task to ensure regular and equitable supply by means of a common supply policy based on the principle of equal access to sources of supply. The Agency has legal personality and financial autonomy. Its Director-General is appointed by the Commission. The Agency operates under the supervision of the Commission, which has a right of veto over all its decisions (Article 53, paragraph 1, Euratom). This general supervision power and right of veto are not to be confused with the Commission's right to take a final decision on cases referred to it as set out in Article 53 paragraph 2, Euratom. One can argue that, by allowing an action for failure to act against the Commission on the grounds that it failed to give instructions to the Agency, the Court did not make that distinction properly.[22] In addition, the decisions of the Agency in the exercise of its exclusive right to conclude contracts and in the exercise of its right of option can be referred to the Commission

18. Although the title of these provisions is "Common rules on competition" they are usually viewed as forming a real common policy.

19. Court of Justice Ruling of 14 November 1978, Ruling 1/78, ECR 1978, p. 2151, points 14-18.

20. Statutes of the Euratom Supply Agency – Statutes of 6 November 1958, OJ No. 27, 6.12.1958, p. 534, amended by Council Decision 73/45/Euratom of 8 March 1973, OJ No. L 83, 30.3.1973, p. 20, Act of Accession Greece, OJ No. L 291, 19.11.1979, p. 17, Act of Accession Spain and Portugal, OJ No. L 302, 15.11.1985, p. 23, and Act of Accession Austria, Finland and Sweden, OJ No. L 1, 1.1.1995, p. 176. On the Agency's role in general see GOPPEL, M., (with BOUQUET, A.) "Aims and Policy of the Euratom Supply Agency", in Topfuel '95, International KTG/ENS Topical Meeting on Nuclear Fuel in Würzburg, March 12-15, 1995, Bonn, Inforum Verlag, 1995, Vol. I, p. 95-105.

21. Article 1 of Commission Decision of 5 May 1960 fixing the date on which the Euratom Supply Agency shall take up its duties (and approving the Agency Rules of 5 May 1960 determining the manner in which demand is to be balanced against the supply of ores, source materials and special fissile materials), OJ No. 32, 11.5.1960, p. 776/60.

22. Court of Justice, 16 February 1993, case C-107/91, ENU/Commission, ECR 1993, p. I 599. This was the conclusion of the Advocate General in that case, but it has not been followed by the Court.

(Article 53, paragraph 2, Euratom)[23] by the parties concerned, within a delay of fifteen days.[24] The Commission is required to decide within one month and the Commission's decision, or its failure to act if the Commission doesn't decide, are, of course, subject to judicial review[25] by the Court of First Instance and by the Court of Justice. The Commission, as representative of the Community, can also be held liable for damages caused by its institutions or its staff.[26]

The Supply Agency publishes an extensive Annual Report[27] which gathers together data on supply and demand for nuclear fuels in the Community, and reports on trends and developments in the supply situation and supply policy. The Supply Agency's annual average natural uranium price, which is used as a price indicator in many supply contracts involving Community as well as non-Community operators, is published in this report.

Given that in most supplier countries, public authorities are involved in the contractual activities of nuclear fuel supply companies,[28] the Agency acts as a kind of counterweight[29] to public authority

23. See Commission Decision 93/428/Euratom of 19 July 1993, OJ No. L 197, 6.8.1993, p. 54, Commission Decision 94/95 of 4 February 1994, OJ No. L 48, and Commission Decision 94/285/Euratom of 21 February 1994, OJ No. L 122, 17.5.1994, p. 30. See *infra* points 3.5.4 and 3.6 for discussion of these cases.

24. Article VIII, paragraph 3, of the Agency Statutes.

25. Under Article 146 Euratom, two annulment actions have (unsuccessfully) been initiated against the three Commission decisions (see footnote 23) under Article 53, paragraph 2, Euratom: Court of First Instance, 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459; appeal rejected by the Court of Justice, 11 March 1997, case C-337/95P, ENU/Commission, ECR 1997, p. I 1329, and Court of First Instance, 25 February 1997, cases T-149/94 and T-181/94, KLE/Commission, ECR 1997, p. II 161, appeal rejected by the Court of Justice, 22 April 1999, case C-161/97P, KLE/Commission, ECR 1999, p. I 2057. Under Article 148, one action for failure to act has been (successfully) submitted against the Commission for failing to respond to a request: Court of Justice, 16 February 1993, case C-107/91, ENU/Commission, ECR 1993, p. I 599, conclusion of the Advocate General along different lines. The subsequent Commission decision in the ENU case has, however, been upheld by the Courts.

26. Under Articles 151 and 188 Euratom, two compensation actions have been brought together with the annulment actions in the KLE and ENU cases (see footnote 25).

27. Available at the following address: http://europa.eu.int/comm/euratom/docum_en.html

28. E.g. the Canadian Nuclear Safety Commission (formerly Atomic Energy Control Board or AECB) or the Australian Ministry for Trade have to authorise uranium export contracts. In Ukraine Goskomatom signs the contracts. Similar approvals exist in many other countries such as Kazakhstan and others. An important exception is the United States where the contracts as such are generally not subject to public intervention, but the exports require an export licence from the Nuclear Regulatory Commission and imports can be subject to trade restrictions under which contract approval (for so called "matching" contracts) by the Department of Commerce can be required (see point 3.6.1).

29. PINEAU, C., and RIMBAUT, C., *Le grand pari, l'aventure du Traité de Rome*, p. 237: "*du côté français, on estimait indispensable qu'Euratom disposât d'un quasi-monopole pour l'achat et la fourniture des produits fissiles, afin de lui donner au niveau mondial un poids comparable à celui des États-Unis et de l'URSS et de la mettre en mesure d'exercer un contrôle réel permettant d'éviter l'ingérence des Américains*".

involvement in the supplier countries, in order to avoid undue constraints with regard to use or further circulation being imposed.[30]

The Euratom Supply Agency is assisted by an Advisory Committee, which is established by the statutes of the Agency.[31] It comprises 51 representatives proposed by Member States and appointed by Council from amongst producers, users and experts (Government or private sector). It elects one Chairman and two Vice-Chairmen who hold a one year renewable mandate. The number of representatives varies per Member State and is based on its size (e.g. Germany 6, Ireland 1). The mandate is for two years and is renewable. Discussions and proceedings of the Committee are confidential and its members are bound to secrecy.[32] The Advisory Committee acts as a link between Agency and producer and supplier industries. It provides a forum for discussion and guides the Agency on nuclear supply and trade matters. It usually meets twice a year and it can be convened whenever consultation of the Committee is required for certain matters (e.g. to adopt rules on balancing supply and demand, for the annual balance sheet and for the annual report).

The Court of First Instance of the European Communities established that the Agency has a broad margin of discretion by stating "where decisions concerning economic and commercial policy and nuclear policy are concerned, the Agency has a broad discretion when exercising its powers" and it went on by confining the Court's review to "identifying any manifestly wrong assessment or misuse of power".[33]

3.3 Tools of the Supply Agency

The Agency has several tools to achieve its mission. The two major tools established in the Treaty are the), and the exclusive right to conclude contracts for the supply of nuclear materials (Article 52 Euratom Agency's right of option (Article 57 Euratom). In addition, the Agency has other specific means of action such as the right to receive notification of transformation and small amount contracts (Articles 75 and 74 Euratom), its intervention to obtain Commission export authorisation for export of Community production (Article 59 Euratom), its contacts with Euratom Safeguards (Chapter 7) and its role in the management of the Community's ownership right for special fissile materials (Chapter 8, see *infra*). Furthermore, the Treaty provided for some additional means of intervention for the Commission and the Agency in the nuclear fuel cycle, but they have not really been used, such as the establishment of commercial stockpiles by the Agency (Article 72, paragraph 1, Euratom), the establishment of emergency stockpiles by the Commission (Article 72, paragraph 2, Euratom) and Commission support and recommendations in the field of uranium prospection (Article 70 Euratom).

30. E.g. attempts to limit the use of material to one reactor (preventing any resale without consent of the supplier country) or to impose that natural uranium concentrates are also converted into hexafluoride in the exporting country (this was the aim of the now abandoned Canadian "upgrading" policy).

31. Articles X to XIV of the Statutes of the Euratom Supply Agency.

32. Article XIV of the Statutes.

33. Court of First Instance Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, point 67; appeal against this judgement was rejected by the Court of Justice in its Judgement of 11 March 1997, case C-337/95P, ENU/Commission, ECR 1997, p. I 1329.

3.3.1 Right of option[34]

The right of option is applicable to material produced in the Community. It applies to the full ownership of ores and source materials and to the right of use and consumption of special fissile materials, because special fissile materials are already under the ownership of the Community (see *infra* point 5.2). Although at the entry into force of the Treaty, this right of option was supposed to be a very important supply instrument,[35] in practice it has never been applied independently.[36] It is exercised through the conclusion of supply contracts in a simplified manner, according to which the Agency waives the exercise of its right of option and concludes the contract between the parties.

If a producer, or two or more connected undertakings, carries out more than one stage of the nuclear fuel cycle, the material can be offered to the Agency at any stage of this cycle [Articles 58, 62(2)(c) and 63 Euratom]. In other words, connected undertakings are exempted from the Agency's right of option. This exception is subject to the condition that the connection has been communicated to and discussed with the Commission (Article 58, paragraph 2, Euratom, referring to Articles 43 and 44) and only applies to the right of option as such, not to the Agency's exclusive right to conclude contracts. Therefore connected undertakings are not exempt from the obligation to submit all their supply contracts, including their mutual contracts, to the Agency.

3.3.2 Conclusion of contracts

The exclusive right to conclude contracts, as provided under Article 52 Euratom, is the central operating tool for the Agency. It applies to all supply contracts, such as purchases and sales of materials (natural uranium, depleted uranium, enriched uranium, thorium, plutonium), exchanges and loans, and (toll) enrichment contracts (see on this point 5.1). It applies to supplies from both inside and outside the Community (Article 64 Euratom).

In order to be valid under Community law, such supply contracts have to be concluded by the Supply Agency. The legal consequence of an infringement of this obligation, and in particular the status of a supply contract which was not concluded by the Agency, is not clearly established: Is the contract still binding between the parties? Can it be declared null and void (*ex tunc*)? Can it be resolved for the future (*ex nunc*)? Should the contract simply be considered as non-existent? The answers to these questions probably should come from the provisions on contract law of the (national) law applicable to the contract, because, unlike in the case of competition law where it is provided that prohibited agreements are automatically void (Article 81, paragraph 2, EC Treaty), there is no Euratom Treaty provision setting out the contractual consequences of an infringement of Article 52 Euratom. Furthermore, the Court's case law establishing the liability of Member States for infringement of directives[37] could also be relevant if a Member State is held responsible for such an

34. ERRERA, J., SYMON, E., VAN DER MEULEN, J., and VERNAEVE, L., *Euratom Analyse et Commentaires du Traité*, Brussels, Librairie Encyclopédique, 1958, p. 118 and 126-133, HAEDRICH, H., *Kommentar Artikel 52*, in VON DER GROEBEN, THIESING, EHLERMANN, *Handbuch des Europäischen Rechts*, Baden-Baden, Nomos, Band 19, No. III A 47, p. 16.

35. MANIG, W., *Die Änderung der Versorgungs- und Sicherheitsvorschriften des Euratom-Vertrages durch die nachfolgende Praxis*, Baden-Baden, Nomos, 1992, p. 44.

36. PIROTTE, O., *et al*, *Trente ans d'expérience Euratom, La naissance d'une Europe Nucléaire*, Brussels, Bruylant, 1988, p. 93-94.

37. Court of Justice Judgement of 19 November 1991, Francovich and Bonifaci/Italy, cases C-6/90 and C-9/90, ECR 1991, p. I 5357, Conclusions Mischo.

infringement. Along these lines, a Member State could be held liable for the negative consequences of such an infringement, e.g. if a national court revokes or declares null a supply contract which has not been submitted as a consequence of that Member State's interpretation of the Treaty. In this respect, it should be recalled that the Member States are responsible for the communication of the necessary information and to ensure that the Agency can act freely on their territory (Articles 55 and 56 Euratom).

In practice, a simplified procedure was introduced from the outset. The Agency's Rules of 1960[38] as modified in 1975,[39] which are based on Article 60, paragraph 6, Euratom and which have been approved by the Commission,[40] provide for simplified modalities on how supply is balanced against demand. Formally the simplified procedure provision (Article 5bis of the Rules) applies only to contracts concerning source materials (natural and depleted uranium, thorium) but in practice, it is also applied by analogy to contracts concerning special fissile materials (enriched uranium and plutonium).

The procedure allows parties to negotiate directly with their suppliers, subject to the submission of the contract to the co-signature of the Agency. Parties are encouraged to use a submission form, and if there are any uncertainties, to discuss them informally with the Agency before submitting the contract formally. If the Agency agrees with the contract, it concludes the contract by co-signing the three original copies, attributing a reference number, and returning two originals to the parties; the third original is kept for the Agency's files.

The compatibility of this simplified procedure with the Treaty was challenged in the ENU case. The Court of First Instance, uncontradicted by the Court of Justice, concluded, without formally examining the validity of the Rules, that this procedure is compatible with the system of Chapter 6 of the Euratom Treaty.[41] This conclusion should apply not only to the simplified procedure for natural uranium, but it also could be invoked for the application by analogy of this procedure to contracts concerning special fissile materials.

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38. Rules of the Supply Agency of the European Atomic Energy Community determining the manner in which demand is to be balanced against the supply of ores, source materials and special fissile materials, of 5 May 1960, OJ No. 32, 11.5.1960, p. 777/60. It should be noted that the name of the Agency is not correctly mentioned in the title (compared with Article I Statutes of the Euratom Supply Agency, OJ No. 27, 6.12.1958, p. 534).

39. Regulation of 15 July 1975 of the Supply Agency of the European Atomic Energy Community amending the rules of the Supply Agency of 5 May 1960 determining the manner in which demand is to be balanced against the supply of ores, source materials and special fissile materials, OJ No. L 193, 25.7.1975, p. 37. It is noted that besides the name of the Supply Agency (see previous note) the designation of the legal instrument is not the same as in the enabling legal basis, Article 60, paragraph 6, of the Treaty (where the instrument is designated as "rules").

40. Commission Decision of 5 May 1960 fixing the date on which the Euratom Supply Agency shall take up its duties and approving the Agency Rules of 5 May 1960 determining the manner in which demand is to be balanced against the supply of ores, source materials and special fissile materials, OJ No. 32, 11.5.1960, p. 776/60. The Commission's Decision approving the amendment of 1975 has not been published but its existence has been confirmed in the Court of First Instance's Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, point 44.

41. Commission Decision 93/428/Euratom, of 19 July 1993, OJ No. L 197, 6.8.1993, p. 54, point 7, Court of First Instance Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, points 71-73.

It is important to notice that the exclusive right includes also the right to refuse, in a reasoned decision, the conclusion of the contract, or to impose conditions. The possibility of imposing conditions on a contract rather than refusing its conclusion has been recognised by the Commission[42] as a means of action. This was confirmed by the Court of First Instance[43] in the KLE case. As stated earlier, such an Agency decision can be referred to the Commission and the Commission's decision can ultimately be challenged before the Courts.

Further simplified modalities of implementation are under consideration by the way of informal arrangements, but to date, no formal amendments to the Rules have been proposed.

3.3.3 Notification of contracts

Under Article 74 Euratom, transfers of small quantities are not subject to conclusion by the Agency, but information must be provided to the Agency on these transactions.[44] For source materials (natural uranium, thorium or depleted uranium), this procedure applies to contracts for not more than one metric ton[45] per transaction or five tons per year and for special fissile materials the limits are 200 grammes of uranium-235, uranium-233 or plutonium per transaction and 1 000 grammes per year.

Another exception concerns contracts relating to the processing, conversion or shaping of materials, as provided for in Article 75 Euratom. These contracts are usually designated as "transformation contracts" in order to differentiate them from "supply contracts" covered by Article 52 Euratom. In practice, conversion, fabrication and reprocessing contracts[46] are considered to be transformation contracts. Enrichment should not be regarded as a mere transformation, but must be considered as a supply operation (see point 5.1). By analogy,[47] storage contracts are treated in the same way as transformation contracts. Article 75 differentiates between transformation contracts concluded by: (a) Community customers and suppliers ("domestic" contracts), (b) Community customers and foreign suppliers ("imports" of transformation services), and (c) non-Community customers and Community suppliers ("export" of transformation services). For "imports" the Commission has the power to prevent the contract if transformation cannot be performed efficiently,

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42. Commission Decision 94/285/Euratom of 21 February 1994, OJ No. L 122, 17.5.1994, p. 30, point 20.

43. Court of First Instance Judgement of 25 February 1997, cases T-149/94 and T-181/94, KLE/Commission, ECR 1997, p. II 161, point 107.

44. Commission Regulation 17/66/Euratom, of 29 November 1966 exempting the transfer of small quantities of ores, source materials and special fissile materials from the Rules of the Chapter on Supplies, OJ No. 241, 28.12.1966, p. 4057/66, as amended by Regulation (Euratom) No. 3137/74 of the Commission of 12 December 1974, OJ No. L 333, 13.12.1974, p. 27.

45. As it is clear in other linguistic versions of Article 1 of Regulation 17/66 that metric tons are intended, we are of the opinion that the expression "ton" in the English version (which could mean "short ton" or 2 000 lbs.) should be understood to mean "metric ton".

46. For reprocessing this has been explicitly recalled in a Commission decision in a competition case: Commission Decision of 23 December 1975 relating to a proceeding under Article 85 of the EEC Treaty (IV/26.940/a – United Reprocessors GmbH), OJ No. L 51, 26.2.1976, p.7, in particular point 3. It should be noted that this approach, which is compatible with the practice, could be conceptually debatable, on partly the same grounds as for enrichment.

47. In practice most transformation contracts comprise a period of storage before or after processing of the materials. If an analogous treatment was not applied, it has been stated that storage contracts should be authorised by the Agency, because under Article 72, paragraph 1, Euratom the competence to establish commercial stocks belongs to the Agency.

safely and without losses (Article 75, paragraph 2, Euratom). Special fissile materials temporarily imported under contracts for the "export" of transformation services are excluded from the Community's right of ownership (see point 4.2). The existence of transformation contracts has to be notified to the Agency, together with some basic information. Unlike the exception for contracts concerning small amounts, no implementing regulation has been enacted to regulate the precise procedure and the information required. Parties are informally encouraged by the Agency to use a notification form with all the useful information.

If the information on the small amount contract or the transformation contract is complete, the Agency acknowledges the notification and attributes a reference number which is to be used in notifications to the Euratom Safeguards Office. With the exception of the (theoretical) possibility that the Commission prevents "imports" of transformation services, these exempted contracts are not subject to any Community authorisation or decision.

3.3.4 Commission authorisation of exports and very long term contracts

When, in addition to the Agency's conclusion, an authorisation or agreement by the Commission is required for an operation, as is the case for exports of nuclear materials produced in the Community (Articles 59 and 62 Euratom) and for contracts of more than ten years (Article 60, paragraph 2), the Agency initiates the request to the Commission and communicates to the parties concerned the tenor of the Commission's decision.[48] The export authorisation does not replace the Agency's conclusion of the export contract. If the contract is concluded before an export authorisation is given, the Agency's conclusion is made conditional upon deliverance of the Commission's authorisation. In the meantime, the supplier can transfer the title to the material in the Community to the non-Community customer, but parties are bound to wait for the Commission authorisation before physically exporting the material.

The requirement for Commission authorisation prior to export applies only to material produced in the Community. Only uranium mined or enriched in the Community and plutonium irradiated in a reactor in the Community are considered as "Community production". Conversion, fabrication or reprocessing in the Community, as well as any other transit or storage in the Community of material which does not constitute production would not require an authorisation.

An export operation includes two aspects, namely the physical movement (transportation) of the material to a country outside the Community, and the intention to dispose permanently of that material outside the Community. Therefore physical movements of material under Article 75, paragraph 1(b) Euratom, i.e. temporary export of the material for processing outside the Community, are not considered as exports in the meaning of Articles 59 and 62 Euratom.

Articles 59 and 62 set two tests or conditions which must be fulfilled before an export is authorised. First there is a kind of "Community preference" to the benefit of Community users, because the terms offered outside the Community must not be more favourable to those offered in the Community. In practice, the Agency examines whether there is any need in the Community for the material proposed for export. In some cases, detailed information on the offers in the Community is compared to the export contract, while in other cases it can be established from the outset that the material is not needed as supply for the Community users. The second test is not very precise. Article 59 states that the Commission cannot give its authorisation "if the recipients of the supplies fail to satisfy it that the general interests of the Community will be safeguarded". Although this provision

48. These decisions are normally not published.

is part of a Chapter on supplies, this so called "general interest" test is usually understood to focus on the political aspects of the export. These aspects remain very sensitive from a point of view of division of powers between the Member States which remain competent for non-proliferation policy as such, and the Commission, which is competent for safeguards. Pursuant to this mandate, the Commission verifies whether the provisions of the Nuclear Non Proliferation Treaty, the Nuclear Suppliers Guidelines[49] and other non proliferation related instruments are duly taken into account.

In practice, the Commission merely verifies whether the recipient country is party to the Non-Proliferation Treaty,[50] has (at least if it concerns a non nuclear weapon state under the Non-Proliferation Treaty) a "full scope safeguards" regime[51] involving all nuclear installations of the country, has adhered to the Nuclear Suppliers Guidelines for further transfers, and has adhered to the Physical Protection Convention and IAEA guidelines.[52] Usually no special assurances are requested from the exporter or recipient states. In practice, the authorisation procedure has not been used to obtain prior consent rights over further transfers of materials.[53]

It should be observed that with the entry into force of the so called "dual use" regulation,[54] the real importance of this procedure as well as the controversial character of its applications, has been reduced.

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49. Referred to as IAEA document INFCIRC/254 as revised, available at: http://www.iaea.org/worldatom/Documents/

50. Treaty on the Non-Proliferation of Nuclear Weapons (1968), United Nations Treaties Series (UNTS). No. 10485, vol. 729, p. 169-175, available at: http://www.iaea.org/worldatom/Documents/Legal/npttext.shtml.

51. This condition is set out in the Nuclear Suppliers Guidelines. A model protocol of "full scope safeguards" is in IAEA document INFCIRC/153(corr). So far it is not required for the recipient country to have signed an additional protocol, the model of which is established in IAEA document INFCIRC/540. Plant specific safeguards as foreseen by IAEA document INFCIRC/66 would normally not be sufficient. For all INFCIRC documents see http://www.iaea.org/worldatom/Documents.

52. Convention on the Physical Protection of Nuclear Material, INFCIRC/274/Rev.1 and Recommendations on the physical protection of nuclear material, INFCIRC/225/Rev. 4(corr); for all INFCIRC documents see http://www.iaea.org/worldatom/Documents.

53. The only case of a Community consent right for retransfers of nuclear materials is not based on export authorisation mechanisms, but is provided for under Article 8.1(C)(i) and point B of Agreed Minute of the Agreement for cooperation in the peaceful uses of nuclear energy between the European Atomic Energy Community and the United States of America (OJ No. L 120, 20.5.1996, p. 1). These rights apply to materials initially transferred from the Community to the United States and made subject to the agreement, whether produced in the Community or not.

54. Council Regulation (EC) 3381/94 of 19 December 1994 setting up a Community regime for the control of exports of dual-use goods, OJ No. L 367, 31.12.1994, p. 1 and Council Decision (CFSP) 94/942 of 19 December 1994 on the Joint Action adopted by the Council on the basis of Article J.3 of the Treaty on European Union concerning the control of exports of dual use goods, OJ No. L 367, 31.12.1994, p. 8, as revised several times, now replaced by Council Regulation (EC) No. 1334/2000 of 22 June 2000 setting up a Community regime for the control of exports of dual-use items and technology, OJ L 159, 30.6.2000, p. 1, as revised *inter alia* by Council Regulation (EC) No. 2889/2000 of 22 December 2000, OJ L 336, 30.12.2000, p. 14.

3.4 Links between supply provisions and safeguards (Chapter 7)

In practice, the supply rules of Chapter 6 are often applied in connection with the safeguards rules of Chapter 7.

First the Agency communicates, at the same moment it sends back the concluded contracts (see point 3.3.2) or the notification acknowledgment (see point 3.3.3), the existence and the main elements (quantities, delivery schedules, conditions imposed by supplier country) of supply contracts concluded or notified to it. This does not include strictly commercial information such as the prices.

This information allows the Euratom Safeguards Office in Luxembourg to attribute a letter code in its accounting system which reflects conditions imposed by the supplier country.[55] Furthermore, in order to allow the link between contracts and physical movements of materials to be made, the reference numbers, attributed by the Agency to supply and transformation (including by analogy storage) operations, are to be used in the advance notifications of imports and exports which have to be made to the Euratom Safeguards Office.[56] If the materials are Community-produced, the intervention of the Commission must also be mentioned in the advance notifications, in order to check that the export was duly authorised (see point 3.3.4).

The Agency also intervenes in the contractual aspects of assurances given to supplier countries that nuclear material can be accepted under the respective Agreement with the Community.[57] In practice the Agency's role is to confirm, before an announced import is accepted, by the Safeguards Office, under the agreement, that the transaction is duly covered by a contract concluded by the Agency or by a contract notified to it.

Finally, the Agency intervenes in the contractual aspects of exchanges of safeguards obligations and codes.[58] These are exchanges of safeguards attached to certain materials at two different locations, without moving the material or changing other characteristics, such as the origin, of the material. The Euratom Safeguards Office authorises these exchanges after the Agency has given its approval for the contractual aspects, and after its own examination (mainly of the equivalence of the materials involved). These exchanges are then performed by the operators through a simultaneous modification of the safeguards codes in an "inventory change report".[59] If one of the amounts is located outside the Community, the safeguards authorities of the third state concerned must also be involved.

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55. Annex II, note 17 of Commission Regulation (Euratom) 3227/76 of 19 October 1976 concerning the application of the provisions on Euratom Safeguards, OJ No. L 363, 31.12.1976, p. 1, in particular p. 38.

56. Annex V, point 15, and Annex VI, point 13, of Commission Regulation (Euratom) 3227/76, OJ No. L 363, 31.12.1976, p. 47 and 49.

57. *E.g.* the exchanges of assurances between the United States and the Community under the administrative agreement provided for by Article 15 of the Agreement for cooperation between the European Atomic Energy Community and the United States of America, OJ No. L 120, 20.5.1996, p. 1; the administrative agreement itself has not been published.

58. These operations are sometimes referred to as "flag swaps".

59. Annex II of Commission Regulation (Euratom) 3227/76 of 19 October 1976 concerning the application of the provisions on Euratom Safeguards, OJ No. L 363, 31.12.1976, p. 1 (see p. 30).

3.5 Principles governing nuclear supplies

3.5.1 Security of supply

The overriding principle governing the implementation of supply provisions is to ensure security of supply. The Court has made it clear that even if other Treaty objectives have to be taken into account by the Agency, the most important one is the security of supply.[60] In line with this principle, the Court has accepted that the viability of manufacturing industries could be taken into account in Agency decisions, but added that this should be done in the broader perspective of the security of supply. Security of supply has also gained a rather prominent place in the debate on energy in general which the Commission launched in November 2000 through its "Green Paper"[61] on the subject.

This principle is implemented through binding and non-binding actions of the Supply Agency. The Agency has recommended in several Annual Reports[62] that users should cover most of their needs well in advance through long term contracts with primary producers, at sustainable prices, i.e. prices allowing the recovery of the cost of production and a sustained producing activity. Furthermore, the Agency recommends maintaining a sufficient level of strategic stockpiles to face any unforeseen difficulty and to allow optimal use of contract flexibilities. In general, the Agency recommends diversification of sources and avoidance of excessive dependence on any single source of supply to ensure that political or other problems in a given country or area would not disrupt the supply situation. The policy of maximum dependence on certain sources of supply, in particular with regard to former Soviet republics, is based on this general objective (see point 3.6.2).

3.5.2 General obligation to supply, except obstacles

According to Article 61 the Agency is obliged to satisfy all orders except if there is a material or legal obstacle preventing it from doing so. The Court confirmed this general requirement but qualified it by adding that the Agency has a broad margin of appreciation in the evaluation of such legal (or material) obstacles.

Therefore the Agency can weigh up the different, possibly conflicting, objectives in order to adopt a position on a given contract. If a restrictive usage provision in a contract might be considered contrary to the Treaty objective of free circulation of nuclear goods, the contract might have to be accepted on the basis of the objective of security of supply because otherwise indispensable supplies might not be obtainable.

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60. Court of First Instance Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, points 57-59.

61. European Commission, "Green Paper Towards a European Strategy for the Security of Energy Supply", 29 November 2000, COM(2000)769 final, http://europa.eu.int/comm/energy_transport/en/lpi_lv_en1.html.

62. Annual Report 1999, p. 7, http://europa.eu.int/comm/euratom/eura99.pdf.

3.5.3 Equal access and non discrimination

The Treaty provides for equal access to users without discrimination as to the use for which materials are intended, except where illicit uses or uses contrary to the uses imposed by the supplier are contemplated. Historically, the equal access provision was intended to allow France to gain access to Belgian Congo uranium at the expiry of an exclusive supply contract with the United States.[63] By that time Congo was independent and the uranium market was plethoric, thus such access no longer had its original importance. A further application of the principle of equal access is made in relation to some pricing practices (see point 3.5.5).

The non-discrimination provision reflects the compromise allowing military programmes and was essential to those Member States which wanted to keep the military option open.

As a consequence of the obligation to ensure that the use imposed by the supplier is effectively pursued, it is essential that the Agency is fully involved in the so-called "safeguards clause" in the supply contracts, i.e. the clause in which parties agree for example that material will only be used for peaceful and non explosive uses. If the restrictions imposed upon the use are contrary to other Treaty provisions, e.g. a restriction to use the material only in one reactor or a provision subjecting any retransfer to prior consent, even within the Community, both of which may be considered contrary to the free circulation of goods as set out in Chapter 9 of the Treaty, the Agency could refuse to accept such clauses. Following conclusion of the contract, the Agency communicates the conditions imposed by the supplier country or the tenor of the safeguards clause to the Euratom Safeguards Office, which will ensure that the conditions are complied with (see point 3.4).

In more recent practice, the non-discrimination principle has been relevant for another purpose, namely in respect of the proportional allocation amongst the users of the limited amounts of NIS supplies which are allowed (see point 3.6.2). In order to comply with this principle, the Agency and the Commission distribute the limited amounts amongst all the users according to their respective needs.[64] The Court accepted that if a contract would give one user privileged access to a disproportionate part of the limited amounts available, the Agency could refuse such a contract, invoking the principle of equal access as a legal obstacle to its conclusion.[65]

3.5.4 No Community preference for domestic production

Some had taken the view that, by analogy with such a principle in agriculture,[66] there is a general principle of Community preference for domestic production, i.e. that users are obliged to prefer Community supplies to imports. In the ENU case it was even claimed, on the basis of Article 66 of the Treaty, that this principle applies even if prices of imports are more favourable than domestic

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63. GOLDSCHMIDT, B., *Le complexe atomique*, p. 310-311.

64. Decision 94/285/Euratom of 21 February 1994, OJ No. L 122, 17.5.1994, p. 30, point 14.

65. Court of First Instance Judgement of 25 February 1997, cases T-149/94 and T-181/94, KLE/Commission, ECR 1997, p. II 161, point 104.

66. Initially, for agriculture this principle seemed to be recognised as binding by the ECJ [see Judgement of 13 March 1968, case 5/67, Beus, ECR 1968 (English edition), p. 83], but subsequently the Court of Justice interpreted this principle merely as a possible approach, not as a binding principle (see Judgement of 14 July 1994, case C-353/92, Greece/Council, ECR 1994, p. I 3411, point 50, and conclusions of Advocate General Jacobs, points 77-82).

natural uranium prices, unless the latter prices are "abusive". The Commission[67] and the Court[68] rejected this interpretation of Article 66, as this provision is designed to create an exceptional regime allowing imports in the event of a crisis resulting in abusive pricing, rather than to give a preference to Community producers. Therefore, the Agency is clearly not allowed to impose preferential purchase of Community production under different conditions, but it would appear that the Court did not exclude the right, without imposing any obligation in this sense, to allow preferential treatment for Community production under equal conditions.

The principle of "community preference", in the sense of a non-binding principle to favour Community production given equal conditions, was also mentioned by the Council in a Resolution, which is by nature a non-binding recommendation (Article 161 Euratom Treaty). On 4 June 1974, i.e. well before any substantial Community civil enrichment industry was set up, the Council recommended that European users, given equal economic and commercial conditions, place their orders preferably with European uranium-enrichment firms.[69] In retrospect, this recommendation remains perfectly in line with the Court's position in the ENU case.

Finally there is, also given equal conditions, a kind of "Community preference" for Community users to have access to production proposed for export. Indeed Article 59 states that exports can only take place under conditions which are not more favourable than offers made to the Agency (for the practical implementation of this principle, see point 3.3.4). In broader terms, the Court rightly concluded from the general scheme of the Treaty that it contains a preference for the users, not for the producers.[70]

3.5.5 Market pricing

According to Article 67 of the Treaty, prices result from the balancing of supply against demand. In the essentially non-monopolistic simplified procedure of co-signature, this is achieved through free negotiations between a seller and a buyer (see point 3.3.2). This provision does not mean that any price has to be accepted as long as it was freely agreed by the parties. In some Agreements entered into by the Communities, especially with State-trading countries or with States with economies in transition from a State-trading system to a market economy, there are provisions that trade shall take place at "market related prices".[71] The Court accepted[72] that if the Agency finds that prices are incompatible with such a provision, e.g. exceptionally low prices unrelated to normal

67. Decision 93/428/Euratom of 19 July 1993, OJ No. L 197, 6.8.1993, p. 54, points 8-10.

68. Court of First Instance Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, point 63, appeal rejected by Court of Justice Judgement of 11 March 1997, case C-337/95P, ENU/Commission, ECR 1997, p. I 1329.

69. Council Resolution of 4 June 1974 concerning the supply of enriched uranium of the Community, OJ No. C 69, 14.6.1974, p. 1.

70. Court of First Instance Judgement of 15 October 1995, cases T-458/93 and T-523/93, ENU/Commission, ECR 1995, p. II 2459, point 60.

71. See Article 14 (still applicable) of the Agreement of 18 December 1989 between the European Economic Community and the European Atomic Energy Community and the Union of Soviet Socialist Republics on trade and commercial and economic cooperation, OJ No. L 68, 15.3.1990, p. 3.

72. Court of First Instance Judgement of 25 February 1997, cases T-149/94 and T-181/94, KLE/Commission, ECR 1997, p. II 161, points 96-101.

market economy prices or to the normal cost of production, this can constitute a legal obstacle within the meaning of Article 61.

If prices are designed to secure a privileged position for some users, the Agency can report them to the Commission and the Commission can set the prices at a level compatible with the principle of equal access (Article 68). This provision has never been used.

3.6 Implementation of the supply policy (in particular with regard to NIS supplies)

In the early 90s, massive natural uranium supplies from the Soviet Union, and later from the New Independent States of the former Soviet Union, entered into the Western markets at very low prices. It seems that these sales were essentially driven by some trading companies trying to achieve high market shares at very low prices. Following several formal and informal complaints both in the United States and in Europe, restrictions or policies have been introduced to limit the authorised levels of supply from these sources.

3.6.1 United States restrictions

Unlike in Europe (where supply policy tools have been used), trade restrictions have been introduced in the United States in relation to anti-dumping investigations following a complaint by the manufacturing industry.[73] These investigations resulted in preliminary affirmative findings of dumping[74] and injury, but were subsequently suspended by negotiated arrangements, called "suspension agreements". These agreements contain agreed quantitative export limitations in respect of Russia,[75] Kazakhstan,[76] Uzbekistan[77] (and Tajikistan[78] and Kyrgystan[79]), and Ukraine.[80] In the

73. Petition of 8 November 1991 by the Ad Hoc Committee of Domestic Uranium Producers, Decision to initiate an investigation by the Department of Commerce (DOC) of 5 December 1991, 56 Federal Register, p. 63711 (case A-821-802). The investigations were initially based on exports from the Soviet Union and continued in respect of exports from the individual former Soviet republics.

74. Preliminary Determination of Sales at Less Than Fair Value: Uranium from Kazakhstan, Kyrgystan, Russia, Tajikistan, Ukraine and Uzbekistan; and Preliminary Determination of Sales at Not Less Than Fair Value: Uranium from Armenia, Azerbaijan, Belarus, Georgia, Moldova and Turkmenistan, Federal Register, 3 June 1992, p. 23380.

75. Agreement suspending the antidumping investigation on uranium from the Russian federation, of 16 October 1992, Federal Register, 30 October 1992, p. 49220 and p. 49935, as amended on 11 March 1994, Federal Register, 1 April 1994, p. 15373, on 3 October 1996, Federal Register, 4 November 1996, p. 56665 (two amendments), on 7 May 1997, Federal Register, 15 July 1997, p. 37879, and on 27 July 1998, Federal Register, 31 July 1998, p. 20516.

76. Agreement suspending the antidumping investigation on uranium from Kazakhstan, of 16 October 1992, Federal Register, 30 October 1992, p. 49220 and p. 49222, as amended on 7 February 1995, Federal Register, 14 March 1995, p. 13699, on 27 March 1995, Federal Register, 12 May 1995, p. 125692, and on 29 September 1998, Federal Register, 9 December 1998, p. 67858, terminated by Kazakhstan and subsequently the resumed investigation was terminated by a negative determination of injury.

77. Agreement suspending the antidumping investigation on uranium from Uzbekistan, of 16 October 1992, Federal Register, 30 October 1992, p. 49220, as amended and terminated after review by a negative determination of injury.

78. Agreement suspending the antidumping investigation on uranium from Tajikistan, of 16 October 1992, Federal Register, 30 October 1992, p. 49220, terminated by Tajikistan and subsequently the resumed investigation was terminated by a negative determination of injury.

meantime, since for various motives all the other agreements or antidumping orders were terminated,[81] only the restrictions for Russia are still in place. Russia is allowed to export to the United States a limited amount annually under so called "matching" arrangements, i.e. on condition that Russian material is sold together with an identical amount of freshly produced United States uranium. The Department of Commerce has to authorise individual contracts.

The suspension agreement contains very strict anti-circumvention provisions. First non-Russian material obtained through an exchange involving Russian material is included under the import restriction as an "indirect import" of Russian material. Secondly, all imports, even imports from other countries than Russia, have to be covered by written assurances that the material was not obtained through such an exchange. Although the Agency is not responsible for the enforcement of United States trade restrictions, it has always taken the view that Community companies should not be party to a transaction which could be contrary to these United States restrictions. Most market operators cover themselves with an "anti-circumvention" clause in which typically the delivering party guarantees that the material was not obtained through an exchange involving restricted material or under an operation designed to circumvent the restrictions, and the recipient party guarantees that it has no intentions to use it under such an exchange or any operation designed to circumvent the restrictions.

In addition to the suspension agreement, an act of Congress[82] regulates the imports of a specific category of Russian materials, namely natural uranium feed (deemed to be Russian) derived from disarmament of Russian highly enriched uranium (HEU) warheads under the agreement between the United States and Russia. The amendment of 3 October 1996 to the Russian suspension agreement had excluded this HEU feed material from the scope of the suspension agreement's restrictions, in order to cover such material in a separate act.[83] Under this Act, a limited annual amount (increasing progressively from some 770 tonnes of uranium in 1998, to 3000 tonnes in 2001, and up to 7 700 tonnes in 2009 and thereafter) of such material can be sold for end use in the United States,

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79. Agreement suspending the antidumping investigation on uranium from Kyrgystan, of 16 October 1992, Federal Register, 30 October 1992, p. 49220, terminated after review because not pursued further by petitioners or interested parties.

80. Agreement suspending the antidumping investigation on uranium from Ukraine of 16 October 1992, Federal Register, 30 October 1992, p. 49220, terminated by Ukraine and the resumed investigation resulted in affirmative determinations of dumping and injury. Subsequently the anti dumping order was terminated after review by a negative determination of injury.

81. See previous footnotes: Suspension agreements with Ukraine, Tajikistan and Kazakhstan were terminated by these countries. For Ukraine initially an antidumping duty was decided, but it was repealed following a "sunset" review. For Tajikistan and Kazakhstan the DOC made affirmative determinations of dumping but the ITC made negative determinations of injury, which terminated the investigation. For Kyrgystan and Uzbekistan the suspension agreements were terminated after a "sunset" review. For Kyrgystan this was decided from the outset as no interested party requested continuation, while for Uzbekistan the DOC determined that dumping was likely but the ITC determined that injury would not be likely. The Court of International Trade upheld the ITC decisions on Kazakhstan and Uzbekistan in its decisions of 24 January and 14 August 2001 (http://www.uscit.gov/slip_op/Slip_op01/01-08.version2public.PDF and http://www.uscit.gov/slip_op/Slip_op01/01-103.pdf), and remanded on 30 August 2001 DOC's decision to base its dumping determination concerning Uzbekistan on the best information available (http://www.uscit.gov/slip_op/Slip_op01/01-114.pdf).

82. USEC Privatisation Act, United States Code, Title 42, Section 2297h-10 (http://www.access.gpo.gov/su_docs/aces/aaces002.html).

83. Federal Register, 4 November 1996, p. 56665.

while the rest can be exported or used in Russia for blending purposes. The enrichment component can be freely sold by the "executive agent" (the United States enrichment corporation or USEC) to the United States end users. The aim of this act being to facilitate the recycling of military materials, the implementation procedure[84] is uncomplicated and there is no individual authorisation of contracts. An agreement has been made between the United States and Russia to facilitate an option agreement for the purchase of an important portion of this material by the Western companies Cogema, Cameco and Nukem.[85]

3.6.2 European Community policy

A Community policy was announced in 1992 to be implemented through the exercise of the Agency's right to refuse contracts. The Community's antidumping regulation has not been used for that purpose.

This policy is implemented with respect to the NIS supplies by the requirement that individual users do not depend upon the NIS for natural uranium for more than approx. one quarter of their needs, and for more than approx. one fifth for enrichment. This policy has not been enacted in formal legislation, but is applied on a case-by-case basis by deciding for each contract on an individual basis whether to conclude the contract, to impose conditions or to refuse conclusion. It is not a quantitative import restriction or quota. A certain degree of flexibility can be allowed, so that for some years a user can be permitted to exceed its entitlement, but the negative balance will be carried onwards. The Agency has in some cases allowed utilities with very small needs to exceed the normal level, to combine purchases of NIS material together with Community production, or to rearrange delivery schedules.

The implementation of the policy has been explained in several conference papers[86] and has recently been set out in the Annual Reports.[87]

The policy has been clearly supported by the Commission in political statements[88] and in documents such as the Green[89] and White[90] Papers on energy policy and in a policy programme.[91] It has been formally endorsed in an individual decision in the KLE case.[92]

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84. Notice of 26 July 1999, Federal Register, 6 August 1999, p. 42925.

85. Uranium Institute News briefing, 24-30 March 1999 (http://www.world-nuclear.org/nb/nb99/nb9913.htm).

86. Agency officials have made several presentations at different industry conferences on the implementation of the policy, see GOPPEL, M., "Supply of Nuclear Fuel in Euratom", World Nuclear Fuel Markets, 18th Annual Meeting, Atlanta, 14 May 1991, GOPPEL, M., "Nuclear Fuel Supply in the European Community" *Deutsches Atomforum*, Winter Session 1992, Bonn, 28-29 January 1992, BLANQUART, J.C., (with BOUQUET, A.), "Nuclear trade between the CIS Republics and Euratom, an update", Nuclear Energy Institute, Fuel cycle 95 Seminar, Coronado (San Diego), 4 April 1995, BLANQUART, J.C., (with BOUQUET, A.), "Some recent trends in nuclear supplies to Euratom users", World Nuclear Fuel Markets, 23rd Annual Meeting, Edinburgh, 19-21 May 1996. Furthermore, the legal basis of the policy was analysed in reports to the International Nuclear Law Association: Report of Working Group No. 3 *"Impact des accords bilatéraux et multilatéraux sur l'évolution des échanges nucléaires"*, Nuclear Inter Jura 1997, Tours, 14-19 September 1997, p. 23-27, "Certain legal problems relating to East-West nuclear exchanges", Nuclear Inter Jura 1995, Helsinki, 3-7 September 1995, part III, and "Nuclear trade in a world increasing globalisation", Nuclear Inter Jura 1999, Washington DC, 24-29 October 1999, p. 13-14.

87. Euratom Supply Agency, Annual Report 1997, p. 10-11, Annual Report 1998, p. 10-12, Annual Report 1999, p. 5-9, and Annual Report 2000, p. 9-12.

The legal validity of the policy has been confirmed by the Court of First Instance in its judgement of 25 February 1997.[93] Ruling against the conclusion of a low-priced contract which would have resulted in excessive dependence upon NIS supplies, the Court stated that the Agency and the Commission raised three legal obstacles within the meaning of Article 61 (see point 3.5.2): (1) incompatibility with diversification policy, (2) prices which are not "market related prices" and (3) risk of a privileged position if one user could take more than his share of the allowed supplies. The Court of Justice rejected an appeal against this judgement in its final judgement of 22 April 1999.[94] It examined the first legal obstacle, not on the strict basis of Article 61 (because this provision is in the section on intra-Community supplies) but on the basis of a general principle, and concluded that this obstacle was sufficient on its own, without examining or criticizing the two other obstacles.

For contracts existing upon accession to the European Union, a special transitional provision exists (see point 3.7).

The Partnership and Co-operation Agreements (PCA) concluded between the Communities and its Member States and former Soviet countries have not affected in substance the policy. In the case of Russia, the "rights and powers" of the Supply Agency have been explicitly recognised in a joint declaration in relation to the nuclear trade provision.[95] The main general trade provisions of the PCA are excluded and are replaced by the key trade provisions of the Agreement with the USSR.[96] These include the provision on "market related prices" (see point 3.5.5) and a provision that trade shall be conducted in accordance with the respective regulations of each party.[97] These provisions are maintained until a specific nuclear agreement enters into force.

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88. Statement in the European Parliament by Sir Leon Brittan on behalf of the Commission, Oral question H-1087, OJ Annex Proceedings of the European Parliament, No. 424, 18.11.1992, p. 227, and Reply by Sir Leon Brittan on behalf of the Commission to Written question E-2042/93, OJ, No. C 219, 8.8.1994, p. 58.

89. Green Paper for a European Union Energy Policy, Document COM(94)659 final, adopted on 11 January 1995, point 195.

90. White paper: An Energy Policy for the European Union, Document COM(95)682 final, point 79.

91. Illustrative Nuclear Programme of the Community (known under its French acronym PINC), Document COM(97)401 final.

92. Decision 94/285/Euratom of 21 February 1994, OJ No. L 122, 17.5.1994, p. 30.

93. Court of First Instance Judgement of 25 February 1997, cases T-149/94 and T-181/94, KLE/Commission, ECR 1997, p. II 161.

94. Court of Justice Judgement of 22 April 1999, case C-161/97P, KLE/Commission, ECR 1999, I, p. 2057.

95. Article 22 and related joint declaration and exchange of letters of the Agreement on Partnership and co-operation establishing a partnership between the European Communities and the Member States, of one part, and the Russian Federation, on the other part, OJ No. L 327, 28.11.1997, p. 3, see also identical Article 15 of the Interim Agreement, OJ No. L 247, 13.10.1995, p. 3.

96. Agreement of 18 December 1989 between the European Economic Community and the European Atomic Energy Community and the Union of Soviet Socialist Republics on trade and commercial and economic co-operation, OJ No. L 68, 15.3.1990, p. 3.

97. Articles 6 and 14 of the Agreement of 18 December 1989 between the European Economic Community and the European Atomic Energy Community and the Union of Soviet Socialist Republics on trade and commercial and economic co-operation, OJ No. L 68, 15.3.1990, p. 3.

3.7 Transitional provisions of the Euratom Treaty

Article 105 of the Euratom Treaty provides for a comprehensive transitional regime for existing supply contracts (and also for existing international agreements).

Under this provision, supply contracts (and transformation contracts) which were concluded before accession will remain valid after accession, subject to a notification of copies of these contracts to the Commission within 30 days after entry into force. The Commission transmits the copies of contracts to the Agency which assigns a contract reference for further use. This is not a conclusion by the Agency and therefore the Agency is not entitled to refuse conclusion of these existing contracts by virtue of the supply policy with regard to NIS supplies. Consequently, such contracts would in effect be "grandfathered" (meaning that a sort of immunity, guaranteed validity or "paternal" protection is given), but this does not mean that the existence of these contracts will not be taken into account when new contracts are examined. In other words the clock is not put back to zero.

This acqired right applies to all the deliveries provided for by the contract, as well as firm options which include pricing and quantities. It is necessary, however, for the Agency to conclude extensions of contracts (and hence, standard Community policy may be applied).

In the interests of clarity, it should be noted that for contracts signed between the date of signature of the Act of Accession and its entry into force, there is in theory a possibility to submit such contracts to the Court if the decisive reason for the contract was to evade the Treaty (Article 105, second sentence). This possibility has never been used.

4. The ownership provisions of the Euratom Treaty

One of the most unique and hence mysterious features of the nuclear law of the European Communities is the Community's ownership right over special fissile materials. It has been qualified as a legal *"curiosum"*.[98] In the past, when the issue was a new and intriguing subject matter, it was studied to quite some extent in the doctrines covering the fields of civil and European Law, but the last few decades have been much more discreet.

According to Article 86, "Special fissile materials shall be the property of the Community". This is a very broad provision, which requires qualifications and exceptions to specify its exact scope. It is to be noted that it is not the Euratom Supply Agency (which has a legal personality separate from the Euratom Community) but rather the Euratom Community itself (one of the three European Communities with legal personality), which has the ownership.

4.1 Extent of Euratom ownership

First of all, only *"special fissile materials"*, i.e. enriched uranium and plutonium, as defined by Article 197 of the treaty, are subject to Euratom ownership. Ores and source materials (natural and depleted uranium, thorium) are not subject to the ownership right. "Fissile" materials, not defined as such by the Council (e.g. some artificial fissile transuranium elements beyond plutonium), do not fall under Euratom ownership. Fission products in waste are also not in the category of special fissile materials.

98. KAPTEYN and VERLOREN VAN THEMAAT, quote in DOMSDORF, E., *Internationaal atoomeneregierecht, De betrokkenheid van Nederland bij meer dan honderd verdragen*, 1993, p. 616.

Article 86 further provides that "The Community's right of ownership shall extend to all special fissile materials which are produced or imported by a Member State, a person or an undertaking and are subject to the safeguards provided for in Chapter 7." These two conditions (1) of production or import in the Community and (2) of submission to safeguards are cumulative.

Hence material imported or produced in the Community which is intended for defence requirements, and is thus exempted from Euratom safeguards by virtue of Article 84, paragraph 3, will remain outside Euratom ownership. As Euratom safeguards are limited to materials located on the territory of member States, Euratom ownership will, of course, not extend to materials destined for use in Community reactors, but located outside the Community, although such materials are subject to the supply provisions (Chapter 6), because contracts are to be concluded regardless of the delivery location. A contract of sale for delivery of special fissile materials to a Community user in the United States would be subject to conclusion by the Agency but the material would not (yet) be subject to ownership. Conversely, without prejudice to an important exception for transit materials under transformation contracts (Article 75c), materials belonging to non-Community users are in principle susceptible to be owned by the Community while located in the Community. In connection herewith, the question of what material is "produced" in the Community is quite delicate, in particular with regard to non-Community material enriched in the Community. This question relates to the old debate between the Commission and some Member States on the status of enrichment and enrichment contracts. Depending on whether enrichment is considered as a production or a transformation, the material will be owned by the Community or not (see *infra* point 5.1).

For nuclear waste, Euratom ownership will apply if it contains special fissile materials and as long as it is under safeguards. Vitrified waste from reprocessing will only be susceptible to fall under Euratom's ownership if it contains sufficient amounts of plutonium or enriched uranium. As this waste contains essentially the fission products and in principle the plutonium and uranium have been removed for recycling, it will probably not often fall under Euratom's ownership. On the other hand, spent fuel which is to be conditioned for direct disposal clearly contains important amounts of plutonium and may contain (depending on the discharge burn-up) residual enriched uranium. For both categories (waste and spent fuel) Euratom ownership will end when safeguards end. Euratom safeguards can cease to apply when the Euratom Safeguards Office determines under Article 23 of Regulation 3227/76[99] that the installation only holds material that is not (or rather is no longer) used for nuclear purposes and that the incorporated nuclear materials are "virtually irrecoverable" (installation exempted from safeguards) or when, under Annex II of the Regulation, a "measured discard" is entered as an "inventory change report" in the materials accounting system (materials ceasing to be under safeguards while installation remains safeguarded).

For material which is illegally introduced into the Community, and is then seized by the police, the situation is somewhat unclear. It seems that before a judge has made a ruling in relation to such material, it cannot be considered as legally "imported" within the meaning of Article 86, and thus it is not (yet) owned by the Community. After such a ruling, however, there can be no doubt that the material is to be considered as "imported" and, without prejudice to the judge's seizure decision on the right of use and consumption, the Community automatically becomes "owner" under Chapter 8 of the Euratom Treaty.

With regard to lease, leasing or renting of nuclear materials belonging to a third party, the implications of Euratom ownership are delicate to evaluate. Under the now expired and replaced

99. Commission Regulation (Euratom) No. 3227/76 of 19 October 1976 concerning the application of the provisions on Euratom safeguards, OJ No. L 363, 31.12.1976, p. 1.

co-operation agreement[100] between Euratom and the United States of America, it was confirmed that the United States Government can lease material and retain ownership of such material without violating the Euratom Treaty, and that, without prejudice to the United States' rights, the Community can enforce the rights conferred to it under Chapter 8 of the Treaty. This hybrid solution splits the public authority ownership between the United States and the Community, while leaving the right of consumption to the users. The policy of the United States was to make special fissile materials available to users under leasing contracts, concluded by the Agency as supply contracts. It was confirmed that this construction didn't result in any practical problems.[101] Subject to a solution of some very delicate legal problems it raises under waste and spent fuel provisions, leasing may become again relevant under the new Russian legislation which allows the import of foreign spent fuel, because one of the envisaged contractual constructions to organise such imports is the leasing of fuel or enriched uranium by Russian suppliers to Western users.

Materials (e.g. natural uranium) and other nuclear items (e.g. nuclear equipment), which are not owned by the Community, are subject to the law of each Member State to determine the "system of ownership" (Article 91). In practice the law of the country where the material is located will determine the applicable ownership provisions.

Without prejudice to the exact delimitation of the rights of ownership and of usage (see *infra*) the Court of Justice based its "Physical Protection" ruling,[102] which decided on the Community's competence to participate in that Agreement, for a large part on the Community's ownership right. The other grounds were Community competencies with regards to safeguards and supply. The Court took the view that these rights are not only indirectly relevant (in connection with supply or safeguards), but that "the system of property ownership is directly relevant to the problems raised by the draft Convention". The Court holds that: "the system of property ownership by the treaty signifies that, whatever the use to which nuclear materials are put, the Community remains the exclusive holder of the rights which form the essential content of the right of property. Thus, in the final analysis, the Community retains the right to dispose of special fissile materials; that concept is the basis of the supply arrangements as described above. [...] therefore, it is the Community, and the Community alone, which is in a position to ensure that in the management of nuclear materials the general needs of the public are safeguarded in its own field. [...] As a result [...], when a new requirement of general interest appears it is primarily for the owner of the nuclear materials, that is to say the Community, to meet it."

4.2 Exceptions to Euratom ownership

Besides the afore-mentioned exemption for defence materials or fissile material in waste no longer under safeguards (see *supra* point 4.1), the Treaty (Article 75, final paragraph) provides for an exception to Chapter 8 for materials in transit to be processed, converted or shaped for non-Community parties (Article 75c). Such material is not subject to Euratom ownership, although it remains under Euratom safeguards. Hence special fissile materials not produced in the Community (e.g. uranium enriched in the United States or in Russia), which belongs to a third party (e.g. a

100. Article 1C of the Additional Agreement for cooperation between the United States of America and the European Atomic Energy Community (Euratom) concerning peaceful uses of atomic energy of 11 June 1960, OJ 29.4.1961, p. 668.

101. See an intervention by Agency Director-General OBOUSSIER, F., in LUKES, R., (ed) *Zweites Deutsches Atomrechts-Symposium*, 15 May 1974, p. 104.

102. Ruling 1/78 (Physical Protection), ECR 1978, p. 2151, points 25-30.

Japanese user), and is transformed (e.g. conversion and fabrication) in the Community and then is to be returned outside the Community, would not be subject to Euratom ownership. To appreciate the extent of this important exception, it should be noted that the consideration of enrichment as production or transformation is, as already indicated, essential (see *infra* point 5.1).

4.3 Ownership right and "right of use and consumption"

In practice the ownership right has only quite limited effects, as the unlimited right of use and consumption can remain in the hands of nuclear economic operators. Article 87 provides that "Member States, persons or undertakings shall have the unlimited right of use and consumption of special fissile materials which have properly come into their possession, subject to the obligations imposed on them by this Treaty, in particular those relating to safeguards, the right of option conferred on the Agency and health and safety." The wording chosen confirms the very extensive rights left to the user. These rights can be compared to the right of *usus, abusus* and *fructus* of the Civil Code and Roman Law, where these rights constitute the elements of the owners' prerogatives.

To benefit from this right, the holder must have obtained possession "properly", which means that the supply provisions, including the Agency's exclusive right to conclude contracts, have been duly respected. The Agency's rights, in particular those with regard to the right of option, are explicitly mentioned in Article 87 as one of the three categories of provisions to which the right of use and consumption is subject. This provision will allow the user to have the fuel processed during the different stages of the nuclear fuel cycle, to consume the manufactured fuel in a nuclear reactor, to have the irradiated fuel reprocessed and recycled (if so decided) and finally, to have the obligation rather than the right, to dispose of the vitrified waste or to dispose directly of the spent fuel. Subject to the procedures and interventions by the Supply Agency it will also be possible for the holder to sell or exchange materials not required for own use.

The value of the material will also be mentioned on the active side of the accounts as an asset (see Article 89, 1, a, and 2), and liabilities attached to nuclear materials, including the responsibility to manage the nuclear waste resulting from irradiation in a reactor, will have to be borne by the party holding the right of use and consumption.[103] In other words all the positive and negative patrimonial rights to the material, the "title" in common language, are vested in the party holding the right of use and consumption. This is confirmed by the provisions on accounting (see *infra*).

4.4 Accounting

Articles 88 and 89 of the Treaty provide that a special account, called "Special Fissile Materials Financial Account", is to be kept by the Agency, on behalf of the Community, expressing the value of such materials. Article 89 provides that: "1. In the Special Fissile Materials Financial Account: (a) the value of special fissile materials left in the possession of or put at the disposal of a Member State, person or undertaking shall be credited to the Community and debited to that Member State, person or undertaking; (b) the value of special fissile materials which are produced or imported by a Member State, person or undertaking and become the property of the Community shall be debited to the Community and credited to that Member State, person or undertaking. A similar entry shall be made when a Member State, person or undertaking restores to the Community special fissile materials previously left in the possession of or put at the disposal of that State, person or undertaking. 2. Variations in value affecting the quantities of special fissile material shall be expressed for

103. PIROTTE, O., *et al*, *Trente ans d'expérience Euratom*, p. 72.

accounting purposes in such a way as not to give rise to any loss or gain to the Community. Any loss or gain shall be borne by or accrue to the holder. [...]".

The value is an asset for the holder and variations (positive and negative) will thus accrue to the holder, not to the Community. In effect, this special accounting mechanism provides that the value of materials produced or imported is credited to the Community, but that at the same time the same value is credited to the user, automatically resulting in a zero balance for the Community, and that consequently the account will always have a zero balance for the Community and the balances between the suppliers and users will be exactly the same as reflected by their respective private business accounts.[104] The Agency[105] is treated as any other user when it exercises its right of option and in this case, the accounts show a net balance for the Agency (not for the Community).

Such special accounts have not been established in practice. The reason given[106] for this omission is that it results from political decisions by the Council in the years 1958-1960. Implicitly the reason is that as the Agency's right of option is not used and a simplified procedure is in place where supply contracts are negotiated directly between the supplier and the user, it would make no sense to follow in detail the value of nuclear materials, as the balance for the Community (automatically) and the Agency (because this option is not used) would always be zero anyway and the relations between suppliers and users can be perfectly reflected in the regular private business accounting systems and instruments (book transfer, invoice). No complaints have been made in respect of this omission and there have been no practical difficulties as a consequence of this political decision to follow a minimalist approach for the implementation of the accounting provisions. Proper knowledge by the Supply Agency of price conditions for other purposes than the management of the Community's ownership right (e.g. to verify that prices are "market related" or to publish an average price of deliveries) can be obtained through the contracts themselves, without requiring a special Community accounting system.

4.5 Doctrines on the nature of "ownership"

Dr. Domsdorf[107] identifies six different interpretations of the Euratom ownership concept, mainly in the German and Dutch doctrines:

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104. For examples, see ERRERA, J., *et al*, *Euratom Analyse et Commentaires du Traité*, p. 166-168.

105. The same would apply for the Commission or the Agency establishing commercial or security stocks under Article 72.

106. Reply given by the Commission to oral question H-118/88 by Mr. Ford in the European Parliament on 6 July 1988 (Debates of the European Parliament, No. 367, p. 219): "Articles 88 and 89 of the Euratom Treaty have never been implemented and there is no 'Special fissile materials financial account'. This situation, which has existed since the Euratom Treaty came into force, is the result of decisions taken by the Council and Commission having regard to the circumstances prevailing at the time the Euratom Supply Agency was set up in the period 1958-60 [...]". The validity of this reply was reconfirmed in the Commission reply of 10 December 1992 to written question No. 2254/92 by Ms. Dinguirard (OJ No. C 90, 31.3.1993, p. 24-25).

107. DOMSDORF, E., *Internationaal atoomeneregierecht*, 1993, p. 617-618, where he quotes the following publications for the respective views: (a) BALLERSTEDT, K., *"Das Eigentum an Kernbrennstoffen"* in *Veröffentlichungen des Instituts für Energierecht an der Universität Bonn*, Düsseldorf, Heft 6, p. 34, BÖHM, P., *Die internationale Regelung der Eigentumsverhältnisse im Bereich des rechtlichen Verwendung der Atomenergie*, Dissertation, Saarbrücken, 1959, p. 55, KNAPPMANN, K., *Das Eigentum im Euratomvertrag under der Besitz im Atomgesetz im Vergleich zu den gleichlautenden Begriffen im*

(a) Ballerstedt, Böhm and Knappmann's position that the private law term "ownership" is used by mistake, because all of the owner's rights (use and consumption) are in the hands of the user; the rights meant by Article 86 are merely a collection of sovereign public law rights of the Community;

(b) Drück, Errera, Vedel, and Vogelaar's interpretation that Chapter 8 makes a distinction between, on the one hand, the purely formal ownership and accounting without private law consequences, which is designed to ensure Community competence in the fields of safeguards, supply and safety, and on the other, the rights and duties the users hold (without formal "title");

(c) Mattern-Raisch's opinion that Euratom ownership is a new *sui generis* legal concept, with a real private law content (otherwise another term would have been chosen), which cannot be assimilated to the legal concept of ownership in Member States;

(d) Haedrich and Pelzer's view that, notwithstanding certain special characteristics, Euratom ownership is in essence the same as private law ownership in the Member States;

(e) Feenstra's parallel with historical feudal law where ownership rights are split between the lord (liege) who is *"dominus directus"* (the Euratom Community) and the vassal (liege man) who is *"dominus utilis"* (the user);

(f) Lukes' view that the Community's ownership is determined by Community law only and is the sum of all the possibilities the Community has to intervene and limit the free disposition of the parties.

BGB, Dissertation, Münster, 1964, p. 101; (b) DRÜCK, H., *Die internationale Zusammenarbeit bei der friedlichen Verwendung der Atomenergie innerhalb Europas*, Frankfurt, 1959, p. 92, ERRARA, *et al*, *Euratom Analyse et Commentaires du Traité*, p. 163 and 168, VEDEL, G., *"Le régime de propriété dans le Traité Euratom"*, *Annuaire Français de Droit International*, 1957, p. 586, VOGELAAR, T.W., *Het eigendomsrecht van Euratom over bijzondere splijtstoffen*, Assen, 1961, p.15; (c) MATTERN-RAISCH, *Atomgesetz-Kommentar*, 1961, *Verbemmerkungen vor Par. 3 Atomgesetz, Randnummern 7-14*; (d) HAEDRICH, H., *"Das Eigentum der Europäischen Atomgemeinschaft an Kernbrennstoffen"* in *Festschrift für C.F. Ophüls*, Karlruhe, Müller, 1965, p. 62., PELZER, N., *"Die rechtliche Problematik der Beschränkungen der deutschen Atomwirtschaft durch den Euratomvertrage"*, *Der Betrieb*, 1962, p. 398; (e) FEENSTRA, R., in VOGELAAR, T.W., *Het eigendomsrecht van Euratom over bijzondere splijtstoffen*, Assen, 1961, p. 37; and (f) LUKES, R., *"Die Eigentumsregelung für die besonderen spaltbaren Stoffe im Euratomvertrag"* in *Zweites Deutsches Atomrechts-Symposium*, 15 Mai 1974, Köln, Heymans, p. 54. Not all these references could be consulted for the present study. See also additional doctrine references: BÖHM, *"Die juristische Problematik der des europäischen Kernbrennstoffeigentums*, *Neue juristische Wochenschrift*, 1961, p. 1553, and "Ownership of nuclear materials in Euratom", *The American Journal of Comparative Law*, 1962, p. 167, HAEDRICH, H., *"Vertrag zur Grundung der Europäischen Atomgemeinschaft (Euratom) Kommentar Artikel 86-92, Kapittel VIII Eigentum*", in VON DER GROEBEN, THIESING, EHLERMANN, *Handbuch des Europäischen Rechts*, Baden-Baden, Nomos, Band 19, No. III A 49, KRUSE, *"Kernbrennstoffeigentum*", *Atompraxis*, 1957, p. 250, SCHNORR, *"Die Eigentumsordnung im Euratom-Vertrag, Wirtschaftsdienst*, 1961, p. 124, STEIN, R., *"Le régime de propriété*", in GANSHOF VAN DER MEERSCH, W., *Les Nouvelles, Droit Européen*, Brussels, Larcier, 1969, p. 1157-1161, VOGELAAR, T., *"Le régime des combustibles nucléaires dans le traité de Rome"*, in OEEC/ENEA, *L'industrie devant l'énergie nucléaire*, III, Conférence de Stresa, Part 2, *Droit Atomique: Législation et Administration*, Paris, 1960, p. 31. (Not all consulted).

By integrating these partly overlapping and partly conflicting views, Domsdorf draws his own opinion that the choice of the term "ownership" is historically determined, and that Article 87 empties Euratom ownership of all of its economic content, which lies with the user. But for him, this does not mean that there are no private law consequences at all. In other words, besides the obvious sovereign public law prerogatives for the Community (supply, safeguards, safety), acquisition through prescription or attachment may be barred by the Community's ownership right, or at least limited to the right of use and consumption, and the Community could make a claim to recover its ownership.

It is probably possible to re-group the different doctrines into three main schools of thought:

1) Community ownership as a private and public law concept to be interpreted in accordance with the different Member States' legal systems;

2) Community ownership as a *sui generis* essentially public law concept with real content, namely the addition of the Community's intervention rights, with some indirect private law consequences attached to it; and

3) Community ownership as an "empty shell", merely reconfirming already existing intervention rights of the Community.

From this examination of the legal doctrine, no clear conclusions can be drawn to give detailed guidance in respect of the interpretation of Chapter 8 of the Euratom Treaty, but a few points seem to be accepted at least by a majority:

1) The word "ownership" is to be explained by the historical background, in particular in the United States. This *sui generis* system is a specific Community law system, which would be hard to fit into any Member State system of ownership.

2) All the economical aspects of the material, both as an asset and a liability, are vested in the user, although the existence of the Community's rights has some secondary and indirect private law consequences (right to revindicate, prescription, attachment), without patromonial consequences.

3) The Community's rights are mainly the sovereign public rights of control over the material, in particular with regard to supply, safeguards and safety. Because of this, the Community's rights are thus not an "empty shell".

These doctrinal debates have never been settled, because no guidance has been given by Court of Justice case law, but in view of established practice, it can be considered that the remaining doctrinal questions are mainly (but not completely, as we will see below) of academic interest.

This is not the case, however, for the more indirect relations between the supply and ownership provisions.

4.6 Practical impact of Euratom ownership on economic operators

Notwithstanding the doctrinal complexities, Euratom ownership does not create substantial problems in practice. Community ownership is a rather "naked" ownership, which does not contain the usual economical components of ownership. These components remain in the hands of the entity which has the right of use and consumption. Hence, no expropriation procedure is necessary upon

accession in order to establish the Community's ownership right; Euratom ownership results automatically from the entry into force of the Euratom Treaty and no assets subject to be compensated are taken away from private persons. Consequently, constitutional or legal protection against expropriation without compensation would simply not be affected.

From a commercial accounting standpoint, special fissile materials are reflected as assets, possibly with liabilities attached, in the users' accounts. Holders can therefore act as if they have full ownership rights.[108] Hence it is possible to use nuclear materials as collateral or security to obtain financing.[109] As stated above, in practice the Special Fissile Materials Financial Account is not in place.

The practical indirect effects are more visible with regard to rights of ownership and use in connection with supply provisions. If a contract subject to conclusion has not been concluded by the Supply Agency, there is a risk that the control over the right of use and consumption is debatable. This could result in uncertainties in the event of a dispute between contracting parties. As the question of which contracts for special fissile materials are subject to conclusion is disputed for enrichment contracts (see *infra*), it can be difficult for operators to find out what the status of their materials is. Depending on the outcome of that question, operators may be well advised to submit their enrichment and subsequent transfer contracts to the Agency for conclusion in order to be sure of their right of use.

The Euratom ownership issue has been invoked recently in pending litigation between two non-Community users (with the involvement of a Community fuel manufacturer as storage site)[110]. In this case, non-Community natural uranium, enriched in the United Kingdom, and subsequently kept in storage in a fabrication plant, was claimed by both the original non-Community user and by another non-Community user who had received it under a loan contract with a defaulting United States trader. Part of the dispute concerned the question whether under the Euratom Treaty it was possible to transfer ownership or title to these disputed materials without the Community intervening (through the Commission or the Supply Agency). So far, the issue was avoided by the first Court on the grounds that enrichment took place in the UK in 1983 and 1984. The Court stated, erroneously it appears, that enrichment happened outside the Community ambit, and that enriched uranium had been subsequently imported into the Community (Germany) for fabrication. Hence Article 75c would apply and Community ownership would be excluded (see *supra*). The Court did not elaborate on the issue of enrichment as a supply or transformation contract and the consequences of the outcome of this unsolved question. As such, the Court's reasoning would probably be correct if the factual starting point (that the United Kingdom was not part of the Community in 1983) was correct (e.g. in the case of enrichment of non-Community uranium in the United States or Russia prior to import for fabrication and storage). As the United Kingdom is a Community Member State since 1973, this conclusion is obviously wrong. In a subsidiary order, the Court stated that even if Euratom ownership existed due to import into Germany, the rights of use and consumption would have been transferred by contract. It will be interesting to follow the outcome of this case, especially with regard to the indirect effects of supply provisions on ownership, and in particular in relation to enrichment contracts. This case demonstrates again that it is advisable, in order to avoid any possible practical problems in

108. Commission Legal Service note mentioned in MANIG, W., *Die Änderung der Versorgungs- und Sicherheitsvorschriften des Euratom-Vertrages durch die nachfolgende Praxis*, p. 40.

109. See for a discussion of this in German doctrine: LUKES, R., (ed) *Zweites Deutsches Atomrechts-Symposium*, 15 Mai 1974, p. 125.

110. Points 3 and 4 of the Judgement of the *Landesgericht Osnabrück*, 17 March 2000, Texas Utilities vs. *Industrias Nucleares do Brasil* and Siemens, case No. 3 HO 154/96, (presumably) not published; case presumed to be still pending in appeal.

connection with Euratom ownership in the event of litigation, to submit contracts to the Agency for application of the appropriate supply provisions of the Euratom Treaty.

In one other case,[111] Euratom ownership has been implicitly relevant as one of the aspects of the legal issues at stake. This case concerned the dispute over some spent fuel from the United States Elk River prototype reactor, which had been sent to the Community (Italy) for reprocessing and was due to be subsequently returned to the United States. At a certain point in time the United States no longer wished to take back the material and proposed, in 1973, to transfer ownership to the operator. As this transfer proposal was never concluded by the Supply Agency, it has been argued that Euratom had not acquired ownership and that consequently the operator could not have obtained the right of use and consumption, with its liabilities. Hence the United States still owned the material and was required to take it back. The Court dismissed the case on political grounds, without ruling on the Euratom ownership and supply issues.

5. Links between ownership right and supply provisions (Chapter 6 of the Euratom Treaty)

After explaining the provisions of Chapters 6 and 8 the links between the two need to be examined in more detail.

The links between ownership and supply provisions are numerous and important. The most important ones are the status of enrichment contracts, the extent of the Agency's right of option and the conditionality of proper contract conclusion for the right of usage.

5.1 The status of enrichment contracts

It has already been explained that the status of enrichment contracts as supply or transformation operations can determine the ownership status of materials in transit for non-Community parties. If such a contract is merely a transformation contract, which falls under the notification procedure of Article 75, the Community is not owner of the material in transit, whereas if such contracts are supply contracts, subject to the Agency's conclusion under Article 52, the Community automatically becomes owner, following production in the Community. Furthermore, exports of Community production are subject to Commission authorisation under Articles 59 and 62 of the Treaty. If enrichment is a supply, exports of uranium enriched in the Community are subject to such authorisation. As enrichment contracts have as their principal aim to supply enrichment, Article 73 cannot be applicable because this provision would only apply to agreements, which accessorily provide for the supply of materials subject to the Agency (e.g. a research co-operation agreement where nuclear materials are supplied by one of the partners).

It is the position of the European Commission and of the Supply Agency that enrichment is a supply operation, but some Member States are of a different opinion and consider that enrichment contracts are only transformation and processing contracts,[112] in the same manner as conversion and reprocessing contracts.

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111. Ruling of 23 December 1999 of the United States District Court for the District of Columbia, in the case ENEA vs. United States DOE, mentioned in *Nuclear Fuel*, 10 January 2000, p. 11-12; for arguments in the case see *Nuclear Fuel*, 18 October 1999, p. 3-4.

112. On this controversy, see some partial elements in PIROTTE, O., and GIRERD, P., "*Données de base introductives au régime d'approvisionnement communautaire en matière nucléaire"* in *Euratom,*

The argument of those who defend the latter opinion is that under toll enrichment contracts, the customer is the owner of the natural uranium feed material and puts it at the disposal of the enricher for the process. The customer will recover the enriched uranium product (which is chemically identical to the feed material) and retain its property. There is no sale of material but provision of a service. The customer remains owner of the materials during and after the process. Should the property of enriched uranium resulting from the process of enrichment be transferred to Euratom, the customer outside the Community would be deprived of its ownership.

It is the Commission's opinion that the latter opinion is not a correct interpretation of the Treaty, essentially because the primary aim of toll enrichment contracts is the supply of enriched uranium product, and because this process is a strategic step in the nuclear fuel cycle, and, hence, a key to the supply of enriched uranium fuels. In terms of added value, the enrichment more than doubles the value of the product. Such contracts can therefore not be exempted as less important routine operations of the nuclear fuel cycle. It is indeed obvious that Article 75 aims to exempt less important operations from the Agency's right to conclude, as a kind of *de minimis* rule. As with any exception, the exception established in Article 75 must be interpreted in a strict sense, and the general aims of Chapter 6, i.e. a common supply system, have to be taken into account; a broad interpretation of Article 75 would jeopardise these objectives, because, in effect, it would deprive the Community of its intervention in the supply of enriched uranium. It is absolutely clear that enrichment can not be considered as minor, on the contrary. Furthermore, in a majority of cases, the customer will contractually transfer the ownership of the depleted uranium tails (a source material, by-product of the enrichment by isotopic separation) to the ownership of the enricher. Finally, enrichment changes the category of the material because source material (natural uranium hexafluoride), is changed into special fissile material (enriched uranium hexafluoride) and a source material by-product (depleted uranium hexafluoride). In other words the enrichment process *produces* (see however next paragraph as to the use of this term in other areas) a certain amount of special fissile materials from source materials. As over the years discussions have been ongoing to amend the Euratom Treaty provisions or (more recently) to find, without prejudice to the legal situation, an acceptable pragmatic solution and procedure, this dispute has not been submitted to the Court of Justice.

It is very important to note that this distinction between enrichment as a supply under Article 52 or as a transformation under Article 75, is not the same as the question debated, in another framework, between enrichment as the provision of a service or as the production of goods for the applicability of anti-dumping[113] or other commercial rules. There is case law[114] in the United States which decided this

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l'approvisionnement en question, 1982, p. 30, PIROTTE, O., *et al*, *Trente ans d'expérience Euratom*, p. 94-96, OBOUSSIER, F., "*Die Sicherstellung des Brennstoffkreislaufes, Eine europäische Aufgabe ?*", in Arbeitskreis Europäische Integration, *Die Kernenergie als Problem europäischer Politik*, Baden, Nomos, p. 41-42, and SIMMONDS, K., *Encyclopaedia of European Community Law*, Vol. B, No. B5-159.

113. Pending investigations: United States DOC Countervailing Duty (CVD) investigations C-427-819, C-428-829, C-421-809 and C-412-821 and Anti-dumping (AD) investigations A-427-818, A-428-828, A-421-808 and A-412-820 and related United States ITC Injury investigations 701-TA-409-412 and 731-TA-909-912. For the procedure so far see DOC Notices of Initiation, Federal Register, 5 January 2001, p. 1080 (AD) and p. 1085 (CVD), ITC initial determination of injury, Federal Register, 31 January 2001, p. 8424, with Opinions in published in Publication 3388, DOC Notices of Preliminary Affirmative CVD Determination, Federal Register, 14 May 2001, p. 24325 (F) and 24329 (UK-N-G). Preliminary determinations in the anti-dumping investigations are due for 5 July 2001. The service/goods issue has so far only briefly been dealt with by the DOC in a manner which was inconsistent with the case law of the Court of Federal Claims (Federal Register, 5 January 2001, p. 1080-81 and 1086-87, and Federal Register, 14 May 2001, p. 24327, footnote) (see next footnote).

issue in the framework of the applicability of the Uniform Commerce Code (UCC). In this case, enrichment customers claimed that USEC had charged excessive prices for enrichment, in violation of several provisions, including the "good faith" provisions of the UCC. The UCC only applies to the sale of goods, not to services. Thus the Court had first to determine whether enrichment is a service or a good, and it concluded that enrichment is a service. Hence the Court decided that the good faith provision of this Code is not applicable to enrichers providing enrichment services!

5.2 The right of option

The exact extent of the Agency's right of option is determined by the Community's right of ownership. For source materials and ores, where the Community is not owner, the right of option applies to the full ownership rights, including the economic aspects. For special fissile materials, where the Community is owner, the right of option only applies to the right of use and consumption. In the (theoretical) case of exercise of the right of option the Community would remain owner, and the Agency would have the right of use and consumption. This situation is reflected in Article 89 where it is provided that for the accounting under the Special Fissile Materials Special Account the Agency is treated as any other user if it has exercised its option, until it has supplied this right further on to a final user.

5.3 The conditionality of transfers of the right of use

Article 87 subjects the benefit of the right of use and consumption to the respect of obligations in the field of supply, safeguards and safety. Consequently, it can be argued that a transfer of the right of use and consumption of special fissile materials imported or produced in the Community, without the conclusion of the contract with the Agency's co-signature under the simplified procedure, would not provide the user with these rights. If this intervention is a condition for the benefit of the right of use and consumption, as the language of Article 87 seems to imply, it would result that as long as this condition is not fulfilled, i.e. as long as the contract is signed by the commercial parties only (buyer and seller), there is a certain risk for the buyer that the right of use is still in the hands of the seller. Regularisation afterwards could, however, be possible.

6. Conclusion

In conclusion to this overview of Chapters 6 and 8 of the Euratom Treaty, it can be stated that the Euratom supply system, which was designed to be a monopolistic system, has been implemented in a simplified fashion, without abandoning any of its objectives or main tools. Therefore it was possible to deal with new market difficulties in a flexible way, without undue rigidity. With the accession of new Member States to the Communities, a generous transitional regime permitting the continuation of existing supply arrangements should avoid major disruptions of traditional supply patterns.

Euratom's ownership right, as such, will not noticeably limit the rights of the holders of nuclear materials: they will retain full economic benefit and liability for the materials under their control. In view of the purely non-patrimonial effects of Euratom ownership, its entry into force upon accession

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114. Judgement of 2 August 1996 of the United States Court of Federal Claims, in the case BKAB and ENUSA vs. USEC, 36 Fed. Cl. 691 (1996), appeal rejected.

of new Member States should not generate any problems. To ensure full benefit of this right of use, operators would be well advised to make sure the supply provisions are fully respected.

In other words, to answer the question raised by the title of this article, it could be stated that Euratom supply and ownership provisions are still quite current and relevant for Candidate countries, but that they normally should not generate problems.

STUDIES

THE NEW GERMAN RADIATION PROTECTION ORDINANCE 2001

by Dr. Martina Palm*

On 1 August 2001, the new German Radiation Protection Ordinance entered into force,[1] thereby replacing the former Ordinance of the same name (see *Nuclear Law Bulletin* Nos. 16, 18, 19, 28, 44, 52 and 59). Implementing two new Council Directives – the Euratom Basic Safety Standards[2] and Directive 97/43/Euratom on health protection of individuals in relation to medical exposure[3] (see *Nuclear Law Bulletin* No. 60), and taking into account new scientific developments, the new Ordinance provides a comprehensive basis for the protection of man and the environment.

Under German law, the legal basis for radiation protection is the 1959 Atomic Energy Act (the consolidated text of this Act including amendments up to 1985 was published in the Supplement to *Nuclear Law Bulletin* No. 36). This Act governs the two comprehensive ordinances covering radiation protection: the 1989 Radiation Protection Ordinance and the 1987 X-ray Ordinance (see *Nuclear Law Bulletin* Nos. 39, 47 and 59). Both ordinances had to be revised in order to harmonise them with the new Euratom directives. The revision of the X-ray Ordinance is expected to be accomplished in early 2002, and only then will the implementation of the said Euratom directives be complete.

To permit full implementation of the European requirements, the main legal basis for the Ordinance, the Atomic Energy Act, had to be amended.[4] Compared to the Radiation Protection Ordinance of 1989, the new Ordinance has been completely re-structured to enhance its clarity and implementation. It is still, however, a very complex, technical piece of legislation, comprising

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* This study was kindly submitted by Dr. Martina Palm of the German Ministry for the Environment, Nature Conservation and Nuclear Safety. The facts contained expressed in this article are the responsibility of the author alone.

1. Full title: Ordinance for the Implementation of Euratom Directives on Radiation Protection of 20 July 2001, published in *Bundesgesetzblatt* 2001 part I p. 1714; text also available on www.bmu.de.

2. Council Directive 96/29/Euratom 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, OJ L159 of 29.06.1996 page 1.

3. Council Directive of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure, and repealing Directive 84/466/Euratom, OJ L180 of 09.07.1997 page 22.

4. Amendment of 3 May 2000, *Bundesgesetzblatt* part I, p. 636, corr. p. 1350.

118 provisions and 14 annexes. As a result of this new Ordinance, a whole range of other ordinances needs to be harmonised with the new radiation protection provisions.[5]

Due to the scientific and legal complexity of the underlying questions, it took five years to revise the Ordinance. Thus, the European deadline for implementation of the directives was – as in other Member states of the European Union – not met. During the negotiating process, however, a sound basis for a comprehensive revision of the Ordinance was formed. The German Radiation Protection Commission discussed the draft Ordinance and issued two recommendations which were taken into account during drafting of the Ordinance. As Germany is a federal State, the constituencies (*Länder*) took part in the discussion from the very beginning. Moreover, opinions of other Federal ministries concerned had to be taken into account, and trade unions, other institutions, scientists and individuals competent in the field of radiation protection were heard. Not only scientific and technical aspects of radiation protection were taken into account but also pragmatic approaches, legal issues and the experience of the constituencies in implementing radiation protection legislation.

Structure of the 2001 Ordinance

Part 1 – General provisions – states the objective of the Ordinance, defines its scope and contains a rather detailed provision on definitions. The objective of the Ordinance is the protection of man and – as it is explicitly mentioned – the environment, against the negative effects of ionising radiation.

Part 2 deals with the protection of man and the environment against radioactive substances or ionising radiation resulting from goal oriented uses in connection with practices.[6] Its provisions are applicable to the use of ionising radiation emanating from artificial sources.

Part 3 – Protection of man and the environment against ionising radiation emanating from natural sources – covers certain types of work activities[7] involving the presence of natural radiation sources leading to non-negligible exposure, such as spas, mines or aircraft operation. This inclusion of natural radiation sources follows the European model; it is without precedent in former German ordinances.

Part 4 deals with the protection of consumers in connection with the addition of radioactive substances to products, and Part 5 contains joint provisions applicable to all parts of the Ordinance such as transitional and final provisions, administrative fees.

Protection of man and the environment with regard to practices

The provisions in Part 2 of the Ordinance apply to "practices", i.e. human activities that can increase the exposure of individuals to radiation from an artificial source, or from a natural radiation source where natural radionuclides are processed for their radioactive, fissile or fertile properties.

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5. See under Chapter "National Legislative and Regulatory Developments" of this *Bulletin*.

6. This term builds on the definition of "practice" in the Euratom Basic Safety Standards: A human activity that can increase the exposure of individuals to radiation from an artificial source, or from a natural radiation source where natural radionuclides are processed for their radioactive, fissile or fertile properties, except in the case of an emergency exposure.

7. Cf. Article 40, para. 1, Euratom Basic Safety Standards.

General principles of radiation protection

To underline their importance, the fundamental principles of radiation protection are enumerated in the first chapter of Part 2 of the Ordinance, following a recent tendency in both national and international law-making to give this section a prominent place in the piece of legislation.

Section 4[8] – Justification – ensures that new types of practice resulting in exposure to ionising radiation must be justified by their economic, social or other benefits in relation to the health detriment they may cause. Existing types of practice may be reviewed if there is new scientific evidence regarding their consequences. Germany plans to enact a specific ordinance enumerating "unjustified" types of practices where, e.g., the same effect can be achieved without using radioactive substances.

Section 5 – Dose limits – enumerates the dose limits of the Ordinance, drawing specific attention to the dose limits applicable to members of the public and exposed workers.

Section 6 – Dose reduction – makes it compulsory to avoid any unnecessary exposure. Moreover, even if a practice does not exceed the relevant dose limits, exposures have to be kept as low as reasonably achievable in the specific situation.

Licences, Approvals, Clearance

This chapter comprising Sections 7 to 29 is a central piece of the Ordinance. Here, **provisions on licences** for handling, treatment or use of radioactive substances, construction and operation of installations requiring a licence, transportation of radioactive substances or of waste containing nuclear fuel, imports and exports requiring a licence, work at external facilities or installations requiring a licence as well as on the procedure for new type approvals are to be found. These provisions are basically the same as in the old Ordinance. A licence is also required for medical research. In future, the application of radioactive substances or ionising radiation requires a licence issued by the Federal Office for Radiation Protection. An ethics commission is involved in this procedure.

The Euratom Basic Safety Standards (Article 5) provide the basis for comprehensive regulations on how to release radioactive substances from control according to radiation protection legislation ("**clearance**"). Until now, there were only precedents of individual cases at constituency level; they are now substituted by a transparent, legally binding regime at the federal level (Section 29). However, the introduction of such a standardised procedure led to questions from concerned individuals and communities who feared that landfill sites might be flooded with radioactive waste, thus adding a political dimension to the scientific and technical discussion. It was – and still is – difficult to convince people that the new concept provides an environmentally sound and responsible way to deal with the disposal of the substances in question.

Not all radioactive substances may be subjected to clearance; it is imperative that the substances or materials in question have only a negligible level of radioactivity. A clearance procedure is possible for such radioactive substances with negligible radioactivity if they originate:

1. from use, treatment or handling of:

   a) man-made radioactive substances; or

8. Sections mentioned are those of the Ordinance.

b) radioactive substances of natural origin whose nuclear properties are used;

2 from practices subject to authorisation within the scope of the Atomic Energy Act:

(storage, treatment, processing, and other usage of nuclear fuels, operation, other possession, decommissioning, safe enclosure of a facility and dismantling of a facility or parts of a facility); or

3. from operation of accelerators.

Of crucial importance is the new definition of "**radioactive substance**" in the Atomic Energy Act (Section 2): Radioactive substances (nuclear fuels and other radioactive substances) within the meaning of this Act are substances that contain one or more radionuclides and whose radioactivity or activity concentration with respect to nuclear energy or radiation cannot be neglected. Whereas the former definition of radioactive substance was based on a physical substance concept, the term is now defined in a legal sense: those radioactive substances that are subject to the Atomic Energy Act's protection and supervision regime are those which are explicitly regulated by these provisions.

In general, *radioactive substances* within the meaning of the Atomic Energy Act are, thus, substances that contain man-made radionuclides – or radionuclides of natural origin whose nuclear properties are to be used – and whose radioactivity and radioactivity concentration exceed the exemption limits of the Radiation Protection Ordinance; i.e. substances whose handling will be subject to authorisation.

The cases in which the activity of radioactive substances "may be neglected" have also been redefined. With respect to clearance, the relevant provision stipulates that the activity of radioactive substances from practices subject to authorisation may be neglected when such substances are below defined clearance levels and have received clearance. After clearance, such substances are no longer radioactive substances within the meaning of the Atomic Energy Act; they fall under relevant specialised law, especially the Closed Substance Cycle and Waste Management Act.[9]

Clearance is issued by an authority, not by a private individual. It is by definition an act of State. It is issued under the prerequisites laid down in the Ordinance which distinguish between (unconditional) clearance and specific clearance, both of which have the effect that the substance in question loses its legal qualification as "radioactive". Whereas "cleared" substances are subject to no restrictions regarding their future use, application, recycling, re-use or disposal, "specifically cleared" substances may not be recycled or re-used and they have to be disposed of in a landfill or waste incineration plant. The Ordinance contains different prerequisites for different types and paths of clearance (e.g. liquid substances, building rubble and excavated soil, sites, etc.).

The clearance levels are defined in such a way that the effective dose for individual members of the population from those substances shall be **of the order of 10 µSv or less** for any member of the public. Thereby, the Ordinance follows the internationally accepted scientific concept that release from control is acceptable if it leads only to a trivial dose. That means radiation exposure shall be of the order of 10 µSv or less in a year for any member of the public and the collective dose for the population shall be less than 1 man-Sv in a year. These criteria are also set forth in Annex I of the Euratom Basic Safety Standards.

9. *Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Beseitigung von Abfällen* (*Kreislaufwirtschafts- und Abfallgesetz*) of 27 September 1994, *Bundesgesetzblatt* part I, p. 2705.

To enhance the transparency of the procedure, the Ordinance lays down various documentation and reporting requirements, forbids the intentional dilution or mixing of substances in order to comply with the clearance levels, and obliges the competent authority to follow any hints that the 10 µSv concept might be exceeded.

Dose limits for occupationally exposed persons

The most important improvement in order to enhance the protection of occupationally exposed persons is the reduction of the annual effective dose from 50 mSv to 20 mSv (Section 55, para. 1). As before, there are significantly lower limit values for persons under 18 years, who may receive only 1 mSv per year (Section 55, para. 3).

The new Ordinance takes a different approach in the protection of women of childbearing age and pregnant women as well as nursing mothers. According to Section 55, para. 4, the body dose accumulated at the uterus over one month shall not exceed 2 mSv (as compared to 5 mSv in the old Ordinance). This constitutes a precautionary measure in case a pregnancy has not yet been discovered.

Following the Euratom Basic Safety Standards, a dose limit for an unborn child which might be exposed to radiation due to the mother's occupation is established: the foetus may not receive more than 1 mSv from the time pregnancy is determined until birth (Section 55, para. 5). It is a novelty in German radiation protection law that an individual dose limit is fixed for the foetus. This has the effect of ensuring that its direct, immediate protection is now possible whereas before, the unborn child could only be protected via the mother. The old Ordinance achieved adequate protection of the foetus by prohibiting pregnant women from remaining in restricted access areas. This strict prohibition is, legally, the strongest means available to achieve the aim which is the comprehensive protection of the unborn child. It constitutes, at the same time, a strong interference with the mother's right to practice her profession and, therefore, is only justified if it is the best means available to achieve that aim.

A different, more adaptable way to achieve protection is through arrangements of working places in such a way that limit values can be kept safely, as is the general approach for the protection of professionally exposed persons (Section 43, para. 1).

With the foetus having its own dose limit, it is now possible to directly protect the foetus rather than simply via the mother's dose limit. Therefore, it is no longer indispensable to keep pregnant women out of restricted access areas as long as the foetus' dose limit (or, of course, other dose limits such as the uterus dose) is not exceeded. In a given situation, a strict prohibition might not be sufficiently justified any more: According to the new Ordinance, restricted access areas are areas where individuals might receive 6 mSv effective dose per year, whereas the old Directive required 15 mSv per year. Therefore, significantly more work places are now situated in restricted access areas which would add to the severity of the interference with the mother's right to practice her profession as the extension of restricted access areas would limit the range of suitable work places even more – this might be one more reason for employers to prefer male workers.

On the other hand, the foetus can be protected in an equally effective manner without strict denial of access. In addition to its own dose limit, other precautionary measures are prescribed. For example, women have to be informed on possible risks due to radiation (Section 38, para. 3), and they may only work in restricted access areas if the person responsible for radiological protection or the radiological protection officer allows it and guarantees, through adequate measures of supervision which have to be documented, that the relevant dose limits are kept [Section 37, para. 1, No. 2(d)].

Dose limits for members of the public

Following the Euratom Basic Safety Standards, the new Ordinance explicitly lays down 1 mSv p. a. as limit for effective dose through "practices" in a year for members of the public (Section 46, para. 1). This improves the protection of members of the public who, in the past, could be exposed to 1,5 mSv per year. Germany did not make use of the possibility allowed by the Euratom Directive to authorise a higher effective dose in a single year provided that the average over five years does not exceed 1 mSv; 1 mSv is a strict dose limit which has to be kept every single year. It is, however, not excluded that persons receive additional doses through natural radiation or in the course of medical treatment.

Protection of air and water

In line with the old Ordinance, the new legislation establishes dose limits for the discharge of radioactive substances into air or water (Section 47). This goes beyond the requirements of the Euratom Directives (which is permitted according to Article 54 of the Euratom Basic Safety Standards) but is regarded as necessary to keep the high level of protection as compared to the old Ordinance. The dose limits are relevant not only for the operation of installations or facilities, but also apply to their planning.

Protective measures against incidents

Section 48 stipulates that the planning of structural or other technical protective measures against incidents in or at nuclear power plants is to be based on the assumption that only an effective dose of 50 mSv may be released into the environment. In addition, body dose limits to avoid deterministic effects are included in the protection concept. These provisions are not only valid for nuclear power plants but also for local interim storage facilities and federal facilities for the safe-keeping and ultimate storage of radioactive waste. Protective measures against incidents in or at other facilities have to be tailored in view of their potential to cause damage including the likeliness of an incident (Section 50). This provision also applies to the decommissioning of facilities and installations. The German Government will issue case-oriented guidelines on such protective measures.

Radioactive waste

In addition to provisions regulating delivery and storage of radioactive waste (Sections 72-79), the new Ordinance includes provisions on treatment and packaging of radioactive waste (Section 74). Thereby it is guaranteed that the authorities competent for the disposal of this waste are informed on the amounts of waste and the respective transports. Also, a loss of radioactive substances is prevented.

Application of radioactive substances or ionising radiation to the human body in medical research

A separate chapter is dedicated to the application of radioactive substances or ionising radiation to the human body in medical research which essentially implements the detailed provisions of Directive 97/43/Euratom on health protection of individuals in relation to medical exposure. A first Part (Sections 80-86) deals with therapeutic medicine and dentistry, a second part deals with medical research.

The first Part starts with its own provision on justification – additional to the general one set out in section 4 – which requires that when applying radioactive substances or ionising radiation to the human body, the potential risk due to radiation must be outweighed by positive effects on human health. In radiotherapeutic practices, a medical physics expert must be involved (Section 82, para. 4).

The second Part states clearly under which – narrow – conditions the application of radioactive substances in medical research is admissible. For example, the test person has to agree in writing, and the bodily doses have to be monitored and documented, as do the results of the tests.

Protection of man and the environment against ionising radiation emanating from natural sources

Following the structure of the Euratom Basic Safety Standards, a separate Part deals with the protection of man and the environment against ionising radiation emanating from natural sources. Sections 93-104 concentrate on "work activities", i.e. activities which are not practices and as such are covered by the second part of the Ordinance – within which the presence of natural radiation sources leads to a significant increase in the exposure of workers or members of the public which cannot be disregarded from the radiation protection point of view. As natural radiation is omnipresent, the protection concept differs considerably from the one concerning practices. Three principal areas are subjected to new regulations:

- increased exposure of workers in specific working areas;
- increased exposure of members of the public due to the production of residues;
- and exposure of aircraft operating personnel to cosmic radiation.

A Chapter on basic principles corresponds to the one introducing the regulations on "practices" but does not contain a clause on "justification" as that would be inadequate when dealing with a naturally occurring phenomenon. Section 93 states that for working practices, the system on dose limitation developed in the chapters on practices applies.

Protection of workers

The German Radiation Protection Commission has examined possibly critical working areas. These are, e.g., underground workplaces, mines and spas. They are explicitly mentioned in Annex XI. Those working places are subject to control, exposures must be estimated, and the competent authority has to be informed if it is possible that the exposure exceeds 6 mSv per year. Persons carrying out such work activities may not receive more than 20 mSv in a year (Section 95); this is combined with body doses. Special safeguards apply to pregnant women and persons under 18 years of age.

Section 103 regulates the protection of aircraft personnel against cosmic radiation. The limit value for flying personnel is 20 mSv per year. The limit for an unborn child which is exposed due to the profession of the mother is 1 mSv. Aircraft crews must be informed on the risks of cosmic radiation, and the doses have to be monitored and communicated to the crew members if they wish. The assessed exposure has to be taken into account when organising work schedules in order to avoid high doses.

Protection of members of the public

The effects of radiation in specified working areas as listed in Annex XI on members of the public are negligible, therefore no specific protection measures are regarded necessary. The situation is different with regard to residues. Residues must be subject to supervision if their recycling or disposal could lead to an exposure of members of the public to more than 1 mSv as a guideline value (Section 97). This is the case with residues listed in Annex XII – they have to be supervised and may only be released from supervision through a procedure which is modelled on the clearance procedure in Section 29 (Section 98). Such residues may only be released from supervision if the guideline value of 1 mSv for members of the public is not exceeded even without further precautionary measures. The Ordinance states under which circumstances this is the case; mainly, certain paths of disposal have to be followed.

Protection of consumers in connection with the addition of radioactive substances to consumer goods

Sections 105-109 implement the principle[10] that the deliberate addition of radioactive substances in the production of foodstuffs including drinking water, toys, personal ornaments and cosmetics or the import or export of such goods is not permitted. The addition of radioactive substances to these goods is not justified as a possible benefit would be outweighed by an additional exposure of workers and members of the public. Although the Euratom Directive only forbids the addition of radioactive substances, the German Ordinance also forbids the activation of radioactivity of such goods because for the consumer, it is irrelevant whether, e.g., the radioactivity results from an addition of a substance or from activation.

Addition of radioactive substances to consumer goods or medical products is subject to a stringent licensing procedure. One of the strict prerequisites is that members of the public do not receive an exposure which is higher than approximately 10 µSv. Producers of such consumer goods have to make sure that such goods are taken back after use without any costs for consumers. The consumer, on the other hand, is obliged to send them back.

Prospects for this new legislation

The new Ordinance will contribute significantly to the further prevention or at least minimisation of the adverse effects of radiation exposure. Its implementation is within the competence of the German constituencies. In regular meetings with representatives of the constituencies dealing with radiation protection, their experience with this new piece of complex legislation will be discussed and information on how to implement it in the most efficient way will be exchanged. Trade unions, institutions, scientists, enterprises and interested individuals will report on their experience with the new regulations. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety has initiated a project to closely examine the situation of women working in the field of radiation protection, and it plans to examine whether the Ordinance takes their needs sufficiently into account or not. The entry into force of the new Ordinance is an important step in the improvement of radiological protection but no reason to lessen further engagement in this field of environmental policy – optimising radiation protection is an ongoing process where continued contributions from all sectors concerned – experts, scientists, lawyers – are of crucial importance for the further development of a comprehensive protection system.

10. Article 6, para. 5, Euratom Basic Safety Standards.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

Canada

Decision rejecting a request to carry out a new environmental assessment of the project to construct a spent nuclear fuel dry storage facility (2001)

Following the decision of the Minister of the Environment of 14 April 1999 approving the project to construct a spent fuel dry storage facility at the Bruce Nuclear Power Plant on Lake Huron, the Inverhuron and District Ratepayers Association introduced a claim for judicial review to invalidate the environmental assessment process. The Association argued that the Minister's decision was based upon an irrelevant environmental assessment and that it did not properly consider the uncertainty as to the possible environmental effects of the project on human health. The Association also called for a public review of the project.

In January 2000, the Federal Court dismissed the application for judicial review on the grounds that the Association could not interfere with the Minister's decision-making process. It also reviewed the factors that the Canadian Environmental Assessment Act of 23 June 1992 required to be considered and held that each of them had duly been taken into account in the final design of the project.

The Association appealed this decision before the Federal Appeal Court, arguing in particular that the Court was required to carry out a "significant search" to determine whether or not the environmental assessment and its associated documents provided the Minister with a reasonable basis for concluding that the radiological impact of the project's final design was not likely to cause significant adverse environmental effects. The Appeal Court, which made its ruling on 20 June 2001, dismissed this argument. It stated that the Court must not turn into an "academy of science" and that "it is not for the Judges to decide what projects are to be authorised, but, as long as they follow the statutory process, it is for the responsible authorities".

France

Judgement refusing an application to annul a Decree authorising an extension to the Melox nuclear installation (2001)

On 16 March 2001, the Council of State (*Conseil d'État* – Supreme Administrative Court in France) rejected an appeal entered by the *Collectif national Stop Melox et Mox*, an independent ecological movement, against the Decree of 30 July 1999 authorising the General Company for Nuclear Materials (*Compagnie générale des matières nucléaires* – Cogema) to carry out an extension to the Melox major nuclear installation, situated in the commune of Chusclan, in the Gard department. In particular, the Court rejected the claim that the absence of a new public enquiry was illegal, pursuant to Section 6 of the Decree of 11 December 1963 on Major Nuclear Installations (the text of this Decree as amended is published in *Nuclear Law Bulletin* No. 12). According to the Council of

State, it was not demonstrated by the contents of the application that the contested activity, which was limited to the construction of an annex for sorting and storage in order to separate Mox fuel into different levels of quality without increasing the capacity for production, introduced modifications capable of substantially modifying the importance or the purpose of the installation, or which would increase its risks.

Decisions on the authorisation to unload and store Australian spent nuclear fuel in France (2001)

In its judgement of 15 March 2001, the County Court (*Tribunal de grande instance*) of Cherbourg ruled on an application made by Greenpeace to prevent the General Company for Nuclear Materials (*Compagnie générale des matières nucléaires* – Cogema) from accepting the unloading and storage in France of spent nuclear fuel originating from a research reactor belonging to the Australian Nuclear Science and Technology Organisation (ANSTO) with a view to its reprocessing in La Hague. The judges believed that "doubts existed with regard to the legality of the envisaged activities, not just in relation to their importation but also with regard to the real use of this fuel, assimilated in fact to waste",[1] and that such doubts were susceptible to cause illegalities preventing reception of this waste.

On 3 April 2001, the Court of Appeal of Caen reversed this judgement on the grounds that "Cogema was in possession, at the time of arrival of the ship, of the necessary regulatory and administrative authorisations to import and stock this nuclear material in France".[2] According to the judges, damage which could result from the storage of such materials in France is currently hypothetical, given that such damage would only take place if the licences for their reprocessing, requested by Cogema, were refused.

The Court declared, however, that it did not have jurisdiction to decide the issue of whether the Australian spent fuel should be assimilated to waste which would, in this event, mean that Cogema had violated the terms of the 1991 Act on Radioactive Waste Management (see *Nuclear Law Bulletin* Nos. 49 and 50; the text of this Act is published in *Bulletin* No. 49) which prohibits the storage of foreign radioactive waste. Also, on 21 May 2001, Greenpeace served another writ against Cogema before the County Court of Cherbourg on new procedural grounds.

Judgement of the Council of State refusing to classify depleted uranium as waste (2001)

By its judgement of 5 November 1998, the Court of Appeal of Bordeaux reversed the judgement of the Administrative Tribunal of Limoges which, on 9 July 1998, had annulled a Prefectoral Order of 20 December 1995 authorising the storage of depleted uranium by the General Company of Nuclear Materials (*Compagnie générale des matières nucléaires* – Cogema) on the site of an old uranium mine and mill at Bessines (in the Haute-Vienne department).

Following the application introduced by the Association for the Defence of the Limousin countries (*Association de défense des pays limousins* – Adepal), supported by Limousin Nature Environment (*Limousin Nature Environnement*), to annul this Order, on 23 May 2001 the Council of State (*Conseil d'État* – Supreme Administrative Court in France) ordered the Association to pay 20 000 French Francs compensation to Cogema.

1. Editors' translation.

2. Idem.

On the issue related to the type of materials to be stored at Bessines, the Council of State ruled that depleted uranium cannot be considered to be waste as "it can be enriched by a procedure"[3] for future use. It also stated that depleted uranium oxide is "a product obtained at an intermediary stage of a transformation process"[4] and considered that "the fact that such procedures may be postponed depending on various criteria, in particular economic criteria, does not mean that depleted uranium oxide should be treated as waste or even less so as final waste".[5]

The Council of State also rejected a series of other arguments invoked by the appellants, for example that the Cogema had omitted to include in its risk study the risk of an aeroplane crashing into the installation. The Council of State rejected this reason, expressing the opinion that as there is a very low probability of such en event occurring, it is not compulsory to take it into account.

Netherlands

Court Case on closure of the Borssele NPP (2001)

In February 2000, the Council of State (the supreme administrative court in the Netherlands) reversed a decision of the Dutch Government providing for the closure of the Borssele nuclear power plant as of 31 December 2003. This reversal had the effect of reinstating the former operating licence with no time limitation (see *Nuclear Law Bulletin* Nos. 65 and 66).

On 22 June 2001, the Government introduced a new claim before the Den Bosch Court to recognise the validity of an agreement concluded with SEP (the Dutch association of electricity producers) providing for the closure of the plant on 1 January 2004. Under this agreement, the Dutch utility EPZ, owner of the Borssele NPP, was to receive 70 million Dutch guilders as compensation for the early closure of the plant.

EPZ, which considers the agreement to be inapplicable, argued that, in addition to the deregulation of the electricity market and the fact that SEP no longer exists, the agreement was signed with SEP and accordingly is not binding on EPZ. To this argument, the Government replied that at that time, SEP represented EPZ in the negotiations as the country's highest electricity authority and thus that EPZ had accepted the agreement to receive the agreed sum of compensation upon the plant closure date. EPZ also argued that no contract confirming such an arrangement had been signed and therefore there was no binding agreement.

On 21 September 2001, the Court ruled that the Government had so far failed to provide sufficient evidence of the existence of a binding agreement between the Government and EPZ for an early shutdown of the plant. However the Court decided to hold a second hearing on 9 November 2001, thereby allowing both parties to gather and present new and additional evidence.

3. Editors' translation.

4. Idem.

5. Idem.

United States

Rulings of the US Court of Appeals for the District of Columbia Circuit regarding the Calvert Cliffs' operating licence renewal proceeding (2000)

In April 1998, Baltimore Gas & Electric Company, now Calvert Cliffs Nuclear Power Plant, Inc., applied to the Nuclear Regulatory Commission to renew its licence to operate the Calvert Cliffs nuclear power plant. Pursuant to the 1991 NRC License Renewal Rule, as amended in 1998 (see *Nuclear Law Bulletin* No. 62), the NRC published notice in the Federal Register of the opportunity for a hearing on the renewal application, and referred the hearing request from the National Whistleblower Center (NWC) to the NRC Atomic Safety and Licensing Board. The Board issued an order giving NWC three weeks, i.e. until 11 September 1998, to file the contentions detailing its concerns, indicating that this period of time might be extended only if unavoidable and extreme circumstances were demonstrated.

NWC filed motions with the Board and the NRC on the grounds that the NRC policy statement, referral order and hearing schedule unfairly restricted the time to frame its contentions and that requests for extensions should be governed by the "good cause" standard. Both the NRC and the Board denied NWC's request for an extension of time, finding that it had failed to demonstrate unavoidable and extreme circumstances warranting an extension.

Following a new petition from NWC, the NRC and the Board agreed to extend the deadline to 1 October 1998. However, as NWC had filed its contentions late (on 13 October 1998), the Board dismissed the petition to intervene and the NRC confirmed this decision.

NWC filed a petition for review of the NRC order with the US Court of Appeals for the District of Columbia Circuit. A first panel initially ruled on 12 November 1999 that the NRC's unavoidable and extreme circumstances standard "is effectively an amendment of the Commission's regulations made without notice and comment required by the Administrative Procedure Act". The Court overruled the NRC's decision and requested that the question of "whether [petitioner] had good cause for an extension of time to file contentions" be considered. However, the case was reheard and on 3 April 2000, a three-judge panel ruled in favour of the NRC. The Court agreed that NWC filed untimely hearing requests and it rejected the claim that "the NRC erred in adopting and applying an unavoidable and extreme circumstances test, in lieu of a good cause test, to assess requests for extensions of time", concluding that the petitioner was simply wrong in claiming that the NRC lacked the authority to adopt this test as an adjudicatory rule.

NWC entered an appeal before the US Supreme Court, which declined on 8 January 2001 to hear the case.

Rulings related to the compensation claims ensuing from the Three Mile Island accident (2000-2001)

Following the Three Mile Island accident in 1979, approximately 2 100 persons filed lawsuits claiming that the radioactive releases had caused health problems. Ten of these lawsuits were chosen as test cases. The US District Court granted summary judgement on 7 June 1996 in favour of the defendants and dismissed all 2 100 pending lawsuits for lack of evidence (see *Nuclear Law Bulletin* No. 59).

In November 1999, the US Court of Appeals for the Third Circuit upheld the dismissal of the ten test cases, but stated that the constitutional right to have their cases heard by a jury had been denied to the remaining plaintiffs and on that ground these claims were reinstated.

On 5 June 2000, the US Supreme Court rejected the appeal by Metropolitan Edison and its holding company, GPU Inc., along with other Three Mile Island owners and operators, to reverse the Court of Appeals ruling. The Court also rejected a separate appeal from ten people regarding the above-mentioned cases and who argued that the 1996 hearing on expert testimony had been too extensive and had intruded on their right to have the facts decided by a jury.

On 30 April 2001, the US Court of Appeals for the Third Circuit confirmed the 1996 ruling stating that plaintiffs seeking damages related to the Three Mile Island accident may not add new evidence to their cases. They may only advance causation theories based on evidence of records existing at the close of discovery. The decision accordingly prevents the plaintiffs from introducing new theories on the causes of radiogenic cancer.

ADMINISTRATIVE DECISIONS

United States

Decision of the US Department of Commerce regarding imposition of countervailing and antidumping duties on imports of low enriched uranium from the European Union (2001)

On 7 December 2000, the United States Enrichment Company (USEC) and its wholly owned subsidiary the United States Enrichment Corporation, producers of low enriched uranium (LEU), filed a petition for the imposition of antidumping and countervailing duties on LEU imports from France, Germany, the Netherlands and the United Kingdom before the US Department of Commerce (DOC). The Petitioners argued that Eurodif S.A. and its US sales agent Cogema, which are controlled by the French government, and Urenco Ltd., a British-Dutch-German consortium, are selling LEU into the US market below their cost of production and benefiting from unfair government subsidies in their home markets. They claimed that imports of LEU from these countries would cause material injury to the US industry. According to USEC, sales of LEU in the United States should conform with trade law requirements of fair pricing.

Imposition of antidumping duties under US trade law requires affirmative final determinations both from the DOC that the imports were dumped and from the US International Trade Commission that they injured a US industry. Accordingly, on 27 December 2000, the DOC initiated investigation on imports of LEU from the countries concerned by the petition.

On 8 May 2001, the DOC made a preliminary determination that US imports of uranium from the four countries concerned were being subsidised, calculating the net subsidy rates at 13.94% for Eurodif and 3.72% for Urenco. Thus it decided that countervailing duties should be imposed on future imports of LEU from Urenco and Eurodif.

The preliminary anti-dumping findings were issued on 6 July 2001. The DOC made negative determinations on uranium imports from Germany and the Netherlands, finding that the dumping margins fell below the US standard for imposing antidumping duties. On the other hand it ruled that LEU imports from France and the United Kingdom was dumped on the US market, the dumping margins being at 17.52% for Eurodif and 3.35% for Urenco (in the United Kingdom).

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Argentina

Organisation and Structure

Reorganisation of the National Atomic Energy Commission (2001)

Decree No. 20/99 of 13 December 1999 transferred the National Atomic Energy Commission (*Comisión Nacional de Energía Atómica* – CNEA), previously under the control of the President of the Republic, under the authority of the Secretariat for Science and Technology which reports to the President. A new Decree No. 250 of 28 February 2001 places the Commission and the Nuclear Regulatory Authority (*Autoridad Regulatoria Nuclear* – ARN) under the direct authority of the President as was originally the case.

Canada

Regime of Radioactive Materials (including Physical Protection)

Order aiming to increase security at major nuclear installations (2001)

This Order was made on 18 October 2001 by the Canadian Nuclear Safety Commission (CNSC) pursuant to Section 47 of the Nuclear Safety and Control Act (see *Nuclear Law Bulletin* Nos. 60, 65 and 66; the text of this Act is reproduced in the Supplement to *Nuclear Law Bulletin* No. 60), which allows the Commission to 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.

This Order aims to increase security at Canada's major nuclear installations and imposes specific security arrangements and measures on the five leading nuclear operators (i.e. Bruce Power, Ontario Power Generation, Atomic Energy of Canada Limited, New Brunswick Power and Hydro-Québec). The Order provides for increased screening of personnel (background checks), more stringent measures to verify the identity of personnel entering the facilities, the presence of armed persons on site for security reasons, improved equipment for security personnel, enhanced measures to prevent forced entry by vehicles and more effective searching of personnel and vehicles entering a facility site.

France

Organisation and Structure

Establishment of the French Agency for Environmental Health Safety and the Institute for the Protection of Nuclear Safety (2001)

Act No. 2001-398 of 9 May 2001 aims to strengthen the institutional regime governing health safety, monitoring and warning systems in relation to the environment. It sets up the following bodies:

- the French Agency for Environmental Health Safety (*Agence française de sécurité sanitaire environnementale* – AFSSE), a new State body responsible for developing and strengthening the capacity and coherence of expertise relating to health risks linked to the environment;

- the Institute for Radiation Protection and Nuclear Safety (*Institut de radioprotection et de sûreté nucléaire* – IRSN), which has been established through the merger of the Office for Protection against Ionising Radiation (*Office de protection contre les rayonnements ionisants* – OPRI) and the Institute for Protection and Nuclear Safety (*Institut de protection et de sûreté nucléaire* – IPSN) into a new public utility company.

The Act provides that a Decree of the Council of State will establish details concerning the conditions and timetable for the establishment of the IRSN, as well as the definition of its functions and subsidiary bodies.

Amendment of the Decree on the Holding Company of the Atomic Energy Commission (2001)

Decree No. 83-1116 of 21 December 1983 on the Holding Company of the Atomic Energy Commission (*Société des participations du Commissariat à l'énergie atomique* – CEA) which is named *CEA-Industrie* was amended by Decree No. 2001-342 of 19 April 2001, which entered into force on 21 April 2001. Pursuant to this new Decree, the Atomic Energy Commission is required to hold more than half of the capital of *CEA-Industrie*. It was previously required to hold at least 67%; however in reality, 95% of the capital of *CEA-Industrie* was held by the CEA.

The Decree furthermore provides that the Head of the Control Mission within the CEA exercises the role of State controller over *CEA-Industrie*.

Decree on the Special Commission for Major Nuclear Installations Classified as Secret (2001)

Decree No. 2001-417 of 11 May 2001 sets out the composition of the Special Commission for Major Nuclear Installations Classified as Secret, established by Section 4 of the Decree of 11 October 1999 on these installations (see *Nuclear Law Bulletin* No. 65). This Commission is comprised of:

- a member of the Council of State (*Conseil d'État* – Supreme Administrative Court in France) holding (at least) the position of councillor or president;

- the High Commissioner for Atomic Energy;
- the Director for the Safety of Nuclear Installations;
- seven representatives of the Ministry of Defence, at least six of whom belong to, respectively, the Armies General Staff, the Navy, the Air Force, the Procurement Agency, the General Controller of the Army, and the Shipbuilding Directorate (*Direction des constructions navales*);
- the Senior Civil Servant for Defence at the Ministry for Industry;
- a representative of the Minister of the Interior;
- a representative of the Minister responsible for Labour;
- a representative of the Minister responsible for the Environment;
- a representative of the Minister responsible for Health;
- a representative of the Atomic Energy Commission (CEA);
- a representative of the General Company for Nuclear Materials (COGEMA);
- two members chosen for their particular expertise in the nuclear field, to be proposed by the Minister of Defence and the Minister of Industry, respectively;
- deputy members for all of the above members.

The members of the Commission are nominated for a maximum duration of five years.

Radiation Protection

Ordinance on the Implementation of EU Directives in the Field of Protection against Ionising Radiation (2001)

Ordinance No. 2001-270 of 28 March 2001 aims to implement the following EU directives into French law:

- 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 controlled areas (see *Nuclear Law Bulletin* No. 47);
- Council Directive 96/29/Euratom of 13 May 1996 setting forth basic standards for the protection of the health of both workers and the public against the dangers resulting from ionising radiation (see *Nuclear Law Bulletin* No. 58);
- Council Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposures, and repealing Directive 84/466/Euratom (see *Nuclear Law Bulletin* No. 60).

The provisions of this Ordinance amend the Public Health Code and the Labour Code by inserting modifications related to both public protection (Sections 1 to 7 of the Ordinance) and to the protection of workers (Sections 8 to 10).

Ordinance No. 2001-270 covers all activities involving a risk of exposure of persons to ionising radiation, whether for medical, industrial or research purposes, and which it refers to as "nuclear activities". It introduces the fundamental principles of radiation protection into the Public Health Code, i.e. the justification, optimisation and dose limitation principles. The provisions governing prohibitions on or authorisations for the use of ionising radiation is modernised and accompanied by a new set of criminal penalties. Furthermore, the rules governing the management of radio-nuclides have been made more stringent and take into account exposure to natural radiation.

This revision effectively places the Atomic Energy Commission (*Commissariat à l'énergie atomique* – CEA) under the general legal regime, whereas previously it benefited in certain cases from an exceptional regime concerning permanent licensing for the preparation, import or export of artificial radio-elements. Article L 1333-20 of the Public Health Code is in fact repealed from the date of entry into force of the implementing decrees governing prohibitions and regulations and also those setting out conditions governing the licensing or declaration regime. Such entry into force will take place at the latest one year after the publication of this Ordinance. These measures also result in the disbandment, by the same date, of the Interministerial Committee for Artificial Radioelements (*Commission interministérielle des radioéléments artificiels* – CIREA) (see *Nuclear Law Bulletin* No. 23) for which the CEA and the Institute for Protection and Nuclear Safety provide permanent secretariat services.

The provisions of Title II of the Ordinance aim to improve the protection of exposed workers, in particular non-salaried workers and short-term workers. Although Directive 90/641 had already been implemented by Decree No. 97-137 of 13 February 1997 (see *Nuclear Law Bulletin* No. 59) and Decree No. 98-1186 of 26 December 1998 (see *Nuclear Law Bulletin* No. 63), specific provisions are introduced to cover non-salaried workers and workers holding either a fixed-duration contract or an interim post. Thus, Section 8 of the Ordinance provides that fixed-term contracts and interim contracts shall be extended or renewed in order to avoid the situation where intensive exposure suffered in the workplace would limit their possibilities of future work for these short-term workers. These provisions apply to contracts concluded after their entry into force.

Decree on Information of the Public (2001)

Decree No. 2001-470 of 28 May 2001, which amends Decree No. 88-622 of 6 May 1988 on Emergency Plans, establishes measures providing for the information of the public which must be activated during the On-site Emergency Plan (*plan particulier d'intervention*) and emergency measures for installations which may cause a radiological emergency situation.

Regime of Nuclear Installations

Decree governing the Safety and Radiation Protection of Nuclear Installations and Activities used for Defence Purposes (2001)

Decree No. 2001-592 of 5 July 2001 establishes the legal framework governing the safety of nuclear installations and activities used for defence purposes, including for example major nuclear

installations classified as secret (*installations nucléaires de base secrètes*), armaments systems, and nuclear ships (hereinafter referred to as "military nuclear systems"), sites and installations used for nuclear experiments for defence purposes, or the transport of fissile or radioactive material for military use.

The Decree provides for the nomination of a Delegate for nuclear safety and radiation protection for activities and installations used for defence purposes. This Delegate is nominated by decree, upon joint proposal of the Minister for Defence and the Minister responsible for Industry to whom he reports, for a renewable period of five years. He is responsible in particular for putting forward draft regulations on nuclear safety applicable to nuclear installations and activities used for defence purposes to the Minister of Defence and the Minister responsible for Industry, and to control the application of such regulations by inspection. He furthermore proposes technical provisions governing protection against ionising radiation, deals with licensing applications for the construction of a major nuclear installation classified as secret or for new types of military nuclear systems, and takes any measures necessary to prevent nuclear accidents and limit their consequences.

The construction of a major nuclear installation classified as secret is subject to a licence which may be granted upon the opinion of the special commission for major nuclear installations classified as secret. The establishment of a new type of military nuclear system is also subject to delivery of a licence by the Prime Minister. The Decree sets out the procedure which should be followed in each of these cases.

Transport of Radioactive Material

Order on Postal Deliveries of Radioactive Materials (2001)

The Order of 22 March 2001 sets out special rules governing postal deliveries of radioactive materials in France. It repeals and replaces the Order of 18 August 1972 as amended on deliveries by post of radioactive materials which are exempt from special transport conditions. It aims to ensure the protection of personnel involved in handling and transporting postal deliveries and the protection of the environment with regard to the risks posed by radioactive materials.

This Order only applies to national postal deliveries of "exempted" packages which contain very low quantities of radioactive materials (international postal deliveries of such materials is prohibited). Radioactive materials may be accepted for postal delivery subject to the terms of the ADR (carriage of dangerous goods by road), RID (carriage of dangerous goods by rail) and OPS 1 (technical conditions governing the use of aircraft by public air transport companies) Agreements where they are not in contradiction with the terms of the present Order, and with the exception of provisions governing transport documents.

Postal deliveries of radioactive materials accepted for such delivery pursuant to the terms of this Order must be carried out by a carrier authorised by the competent authority in a special consignment office designated for this purpose by the authorisation. Carriers which are already authorised under the terms of the above-mentioned Order of 18 August 1972 are permitted to continue their deliveries whilst conforming to the requirements of the new Order within a period of one year from the date of its publication.

Order on the Carriage of Dangerous Goods by Road ("ADR Order") (2001)

The ADR Order, which was adopted on 1 June 2001 and entered into force on 1 July 2001, amends the ADR Order of 5 December 1996 on the same subject which aimed to allow application on French territory of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR Agreement).

The 2001 Order aims to incorporate into French law the 2001 Amendment of the ADR Agreement and to modify the national specifications which France had retained. The Order takes into account the complete re-structuring of the ADR Agreement. It contains four annexes (A, B, C, D), Annexes A and B of which correspond to Annexes A and B of the ADR Agreement including its amendments which entered into force on 1 July 2001.

Order on the Transport of Dangerous Goods by Rail ("RID Order") (2001)

This Order of 5 June 2001 repeals the RID Order of 6 December 1996 and its 1997 and 1998 amending texts (see *Nuclear Law Bulletin* Nos. 61 and 63). It aims to implement the 2001 amendment to the Regulation on the International Carriage of Dangerous Goods by Rail into French law while keeping the national French specifications. This Order entered into force on 1 July 2001 but the rules in force as of 30 June 2001 may continue to be applied until 31 December 2001 for goods from Class 7 (radioactive materials) and until 31 December 2002 for other goods.

Germany

General Legislation

Agreement on the phase-out of nuclear energy (2001)

On 11 June 2001, the German Government and the leading electricity-generating companies signed an Agreement on the phase-out of nuclear energy. This Agreement formalises the terms of the agreement which the utilities and the Government reached on 14 June 2000 (see *Nuclear Law Bulletin* No. 66).

This Agreement, which confirms the ban on the construction of new nuclear power plants, the limitation to 32 years of the average life-span of the 19 German nuclear power plants, the prohibition from 1 July 2005 of nuclear waste reprocessing, and the obligation to set up and use interim storage facilities in the vicinity of the plants, paves the way for consideration by the Parliament of a draft law to amend the 1959 Act on Peaceful Uses of Nuclear Energy (the text of which is reproduced in the Supplement to *Nuclear Law Bulletin* No. 36).

Radiation Protection

Ordinance implementing Euratom Directives on Radiation Protection (2001)

On 20 July 2001, the Federal Government issued an Ordinance for the Implementation of Euratom Directives on Radiation Protection (*Bundesgesetzblatt* I p.1714). The main legal basis for this Ordinance lies in the authorisations granted to the Federal Government by the Atomic Energy Act, in particular following its amendment by the Act of 3 May 2000 (see *Nuclear Law Bulletin* No. 67; see also *Bundesgesetzblatt* 2001 I p. 1847).

The main purpose of this Ordinance is to amend the 1989 Radiation Protection Ordinance (see *Nuclear Law Bulletin* Nos. 44, 52 and 59) but numerous other ordinances require consequential amendments, namely:

- Nuclear Installations Procedural Ordinance (Supplement to *Nuclear Law Bulletin* No. 30; also see *Nuclear Law Bulletin* No. 55);
- Financial Security Ordinance (Supplement to *Nuclear Law Bulletin* No. 18);
- Reliability Assessment Ordinance (see *Nuclear Law Bulletin* No. 65);
- Ordinance on Advanced Financial Contributions towards Final Disposal Facilities (see *Nuclear Law Bulletin* Nos. 30, 39, 41 and 46);
- Ordinance on Persons Responsible for Nuclear Safety (see *Nuclear Law Bulletin* No. 51);
- Ordinance on the Shipment of Radioactive Waste (see *Nuclear Law Bulletin* No. 63);
- Ordinance on Nuclear Costs (see *Nuclear Law Bulletin* Nos. 29 and 51);
- Ordinance on Weights and Measures (*Eichordnung*);
- Ordinance on X-rays (see *Nuclear Law Bulletin* Nos. 39, 47 and 59).

The amendment of the Radiation Protection Ordinance results in an entirely new version of that Ordinance. The old Radiation Protection Ordinance of 13 June 1989 as last amended on 18 August 1997 (*Bundesgesetzblatt* 1989 I. p. 1321, 1326: 1997 I p. 2113) expired on 1 August 2001 when the amending Ordinance came into effect.

The new Radiation Protection Ordinance comprises 118 Sections and 14 Annexes. It is comprised of the following parts:

- Part 1: General.
- Part 2: Protection of man and the environment against radioactive substances or ionising radiation from goal oriented uses in connection with certain activities.
- Part 3: Protection of man and the environment against natural radioactive substances and ionising sources in connection with activities not covered by Part 2.

- Part 4: Protection of consumers in connection with the addition of radioactive substances to products.

- Part 5: Joint provisions applicable to all Parts.

The Ordinance aims to implement Council Directives 96/29/Euratom 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 (Official Journal L159 of 29 June 1996, p. 1; see *Nuclear Law Bulletin* No. 58) and 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure (Official Journal L180 of 9 July 1997, p. 22; see *Nuclear Law Bulletin* No. 60). The Ordinance also implements additional elements of Council Directive 89/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency (Official Journal L 357, p. 31). This latter amendment is a consequence of a procedure against the Federal Republic of Germany pending before the European Court of Justice in which the Commission claims that Germany has not properly implemented the said Directive.

Details of the new Radiation Protection Ordinance are set out in a study by Dr. Martina Palm in Chapter "Studies" of this *Bulletin*.

Greece

Radiation Protection

Radiation Protection Regulations (2001)

These new Regulations were adopted by Ministerial Order No. 1014 (FOR) 94, and entered into force on 6 March 2001. Designed to protect the workers and the public against the risks resulting from ionising radiation, they replace the Regulations of 17 July 1991, approved by Ministerial Order No. 14632 (FOR) 1416.

Amendment of the former Regulations had become necessary in order to take into account the Recommendation of the International Commission on Radiological Protection set out in its Publication No. 60, the international basic safety standards, and also to implement Council Directive 96/29/Euratom 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 (see *Nuclear Law Bulletin* No. 58) and Council Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure (see *Nuclear Law Bulletin* No. 60).

The new Regulations is comprised of 12 Parts dealing respectively with principles of radiological protection; licensing of ionising radiation laboratories; radio-diagnostic laboratories; nuclear medicine diagnostic and therapeutic laboratories; radiotherapy laboratories; management and disposal of radioactive waste; radiological laboratories for research, training and applications of ionising radiation; industrial radiographic laboratories; sealed source irradiation installations; particle accelerators; transport of radioactive materials; and annexes.

The main changes made by the Regulations are as follows:

- Reduction of the annual dose limits for occupationally exposed workers and the public to 20 mSv and 1 mSv respectively.

- Establishment of a distinction between practices and interventions: practices are human activities which may result in an increase of exposure to ionising radiation; interventions are human activities which aim to reduce or prevent exposure resulting from a radiological emergency or from past practices of professional activities.

- Introduction of the concept of intervention as a legal instrument in radiation protection legislation.

- Taking into account exposures resulting from professional activities involving natural sources of radiation: such exposures may justify special attention or protective measures.

- Introduction of the concept of "dose constraints" in relation to the optimisation procedures: dose constraints may be established and used for a given source, practice or activity in order to optimise protection at the design or planning stage. Dose constraints may be set out by the Greek Atomic Energy Commission (GAEC). Generic and specific dose constraints are set out in the Regulations.

- Obligation to justify new practices and some previous ones. In the medical field, justification of new practices or of previous practices made necessary in the light of new information is approved by a seven-member committee established under the Minister for Health. For all other practices, justification is approved by the GAEC.

Italy

Radiation Protection

Amendment of the Decree implementing the Euratom basic radiation protection standards (2001)

Parliamentary Decree No. 241 of 26 May 2000 (see *Nuclear Law Bulletin* No. 66), adopted in order to implement Council Directive 96/29/Euratom of 13 May 1996 setting forth basic standards for the protection of the health of both workers and the public against the dangers resulting from ionising radiation (see *Nuclear Law Bulletin* No. 58), was amended by Parliamentary Decree No. 257 of 9 May 2001 (published in Official Journal No. 153 of 4 July 2001). The amendments introduced essentially aim to rectify certain technical provisions, including one governing the establishment of particular technical conditions related to the licensing (or the exemption from licensing) of X-ray equipment and other radioactive sources. However, certain fundamental provisions, such as those governing the licensing of certain activities or ionising radiation sources, have also been amended. Other modifications include the introduction of limitations or special bans on the use or importation of certain products containing naturally radioactive materials, or the procedures which should be followed upon the termination of certain activities.

Implementation of the European Directive on the Quality of Water Intended for Human Consumption (2001)

Parliamentary Decree No. 31 of 2 February 2001 (published in the Official Journal – Ordinary Supplement – No. 53 of 3 March 2001) which implements Council Directive 98/83/EC of 3 November 1998 on the Quality of Water Intended for Human Consumption sets out the minimum conditions which must be observed in respect of water for human consumption. The Decree therefore establishes the radioactive content (tritium, potassium-40, radon and its decay products) and the parameter levels (100 Becquerel/litre for tritium) which must be observed. It also organises a control mechanism governing these standards and sets out the frequency, methods and competent authorities (the regions, and at national level, the Minister for Health) for such control.

Japan

Radiation Protection

Revision of the Nuclear Disaster Prevention Guidelines (2000)

On the basis of the lessons learned from the criticality accident which occurred at the Tokai-mura nuclear fuel fabrication plant in 1999 and the Special Law on Emergency Preparedness for Nuclear Disaster (see *Nuclear Law Bulletin* No. 65), the Guidelines describing the technical aspects of nuclear disaster prevention measures were revised in May 2000. The main features of the revision are as follows:

- The Guidelines are adjusted to comply with the new legal framework governing nuclear disaster prevention measures as set out by the above-mentioned Special Law.
- They now cover research reactors and other nuclear fuel facilities, including nuclear power plants and reprocessing plants.
- They apply to an accident resulting in release of nuclear fuel particles into the environment, a criticality accident, and an accident accompanied by a release of noble gas and iodine into the environment.

Republic of Korea

Third Party Liability

Amendments to the Act on Compensation for Nuclear Damage (2001)

New amendments were made to the 1969 Act on Compensation for Nuclear Damage with the adoption of Act No. 6350 on 16 January 2001 (see *Nuclear Law Bulletin* No. 67). The text of this Act, as amended, is reproduced in the Supplement to this *Bulletin*.

Lithuania

General Legislation

Regulations for the Classification of Legal Acts Regulating Nuclear Safety (2001)

By Order No. 34 of 11 July 2001, the Nuclear Power Safety Inspectorate (VATESI) approved the Regulations for the Classification of Legal Acts Regulating Nuclear Safety. These Regulations set out a hierarchy between the various instruments listed (legal acts, general requirements, regulations, rules, recommendations, etc.) and specify their binding or non-binding character.

Radiation Protection

Hygiene Standard "Radiation Safety in Nuclear Power Plants" (2001)

By Order No. 120 of 19 February 2001, the Minister of Health Protection approved this Standard HN 87:2001. It establishes the radiation safety requirements to be observed during the operation of nuclear power plants with a view to ensuring the protection of employees of nuclear power plants and of the public living in the surrounding areas.

Guidelines governing the Procedure on Radiological Monitoring and Limitation of Releases of Radionuclides into the Environment from Nuclear Facilities (2001)

By Order No. 60 of 23 January 2001, the Minister for the Environment approved Document LAND 42-2001. This Document sets out guidelines which apply to the design, construction and operation of nuclear facilities, the activities of which involve radionuclides which could be released into the environment, as well as to the decommissioning of such facilities.

Regime of Nuclear Installations

Law on the Decommissioning Fund for the Ignalina Nuclear Power Plant (2001)

This Law was adopted on 12 July 2001 by the Seimas (Parliament) of the Republic of Lithuania and will enter into force on 1 January 2002. It provides for the establishment of a new Ignalina NPP Decommissioning Fund (see *Nuclear Law Bulletin* No. 66).

This Fund shall be financed in particular from a percentage of the profit made by Ignalina NPP through electricity production; voluntary contributions from foreign countries, international organisations, financial institutions and legal entities of Lithuania; and income gained from the sale of property during decommissioning.

The Law states that the Foundation shall be managed by the Fund Council, consisting of seven members appointed by the Government. The Law sets out the tasks of the Council, including in

particular decisions as to which decommissioning measures will be financed from the assets of the Fund.

The assets of the Fund shall be used to finance technical and social projects related to the decommissioning of Ignalina NPP; management, final disposal and long term storage of radioactive waste and spent fuel from Ignalina NPP; and compensation for nuclear damage.

Finally, the Law provides that the assets currently available in the Fund for the Decommissioning of the State Enterprise Ignalina Nuclear Power established by Governmental Resolution No. 1403 of 2 November 1995 shall be transferred to the Ignalina NPP Decommissioning Fund.

Radioactive Waste Management

Order approving the Requirements on Management of Radioactive Waste in Nuclear Power Plants before Disposal (2001)

Order No. 38 was adopted by the Nuclear Power Safety Inspectorate (VATESI) on 27 July 2001. These requirements aim to ensure the safe management before disposal of radioactive waste generated during operation and decommissioning of nuclear power plants, as well as other types of radioactive waste, e.g. radioactive waste transferred to nuclear power plants for storage and/or reprocessing.

Luxembourg

Radiation Protection

Grand-ducal Regulations relating to the Health Protection of Individuals against the Dangers of Ionising Radiation in relation to Medical Exposures (2001)

The promulgation on 16 March 2001 of new Grand-ducal Regulations relating to the Medical Uses of Ionising Radiation, designed to replace the Grand-ducal Regulations of 17 February 1987 on the same subject (see *Nuclear Law Bulletin* No. 41), was necessary due to the repeal, on 5 May 2000, of Directive 84/466/Euratom of 3 September 1984 laying down Basic Measures for the Radiation Protection of Persons Undergoing Medical Examination or Treatment (see *Nuclear Law Bulletin* No. 34), and its replacement by Council Directive 97/43/Euratom of 30 June 1997 on Health Protection of Individuals against the Dangers of Ionising Radiation in relation to Medical Exposure (see *Nuclear Law Bulletin* No. 60).

It was necessary to draft this new Directive for several reasons:

- Exposures for medical reasons remain the principal source of exposure to artificial ionising radiation for citizens of the European Union.

- Medical uses of ionising radiation have led to important developments in numerous medical fields, in particular through the introduction of new techniques and technologies.

However, often these new techniques in fact administer high doses (CAT scans, interventional radiology). The use of such new procedures during medical treatment necessitates exposure which must be carried out in optimal conditions of radiation protection.

- The International Commission on Radiological Protection (ICRP) published recommendations in 1996 on the radiological protection of patients exposed to ionising radiation for medical purposes (ICRP 73). These recommendations emphasise the importance of the principles of justification and optimisation of medical exposure.

- Harmonisation at European level of the protection of patients exposed to ionising radiation for medical purposes became desirable: in reality, radiological practices in European countries can vary substantially.

These new Regulations comply in general with the provisions set out in Directive 97/43/Euratom and in the Act of 10 August 1983 concerning the Medical Uses of Ionising Radiation (see *Nuclear Law Bulletin* No. 34).

The most important modifications and the main new elements introduced by these Regulations are as follows:

- Justification: Each individual exposure and all new and existing practices must be justified generically. This implies that both prescribers and practitioners are involved in the justification process. The two parties must decide whether the potential health benefits for the patient resulting from the examination are greater than the risks caused by the exposure. In order to assist prescribers in their judgement, it is planned to establish prescription criteria governing exposure for medical purposes.

- Optimisation: all medical exposure for radiodiagnostic purposes, with the exception of therapeutic procedures, must be maintained at the lowest level reasonably possible. This process of optimisation focuses on the choice between different equipment, the establishment of adequate diagnostic information or therapeutic results, practical aspects, insurance, quality control, and the evaluation of doses administered to patients. Reference levels (dose levels) for examinations for radiodiagnostic purposes remain to be established.

The Regulations set out rules governing exposure for therapeutic purposes, for research purposes or as part of medico-legal procedures.

- Training: theoretical and practical training in radiation protection is compulsory for all persons who are authorised to use ionising radiation on humans. This basic training must be complemented by continuing eduction on the subject.

- Equipment: equipment used must be subject to strict radiation protection control. Recommended means of control are quality assurance programmes which involve periodical performance control of equipment, to be carried out by an expert in medical physics, as well as tests to be carried out periodically by the operator of the installation.

- Special practices: particular attention is paid to special practices which require appropriate techniques, equipment and accessories. These measures concern in particular:

  – children;

  – health screening programmes;

  – interventional radiology and computed tomography (CAT scan);

  – radiotherapy.

The Regulations provide that these special techniques should be accompanied by specific quality assurance programmes and continued training for users.

- Clinical audits: the Regulations provide that clinical audits should be used to allow evaluation, by users, of existing quality assurance programmes in order to carry out improvements in the case of marked deficiencies.

Morocco

Organisation and Structure

Decree on the Construction Licence for the Maâmora Nuclear Research Centre (1999)

Pursuant to this Decree No. 2-99-111 of 26 February 1999, the National Centre of Nuclear Energy, Science and Techniques (*Centre national de l'énergie, des sciences et des techniques nucléaires* – CNESTEN) is licensed to build a Nuclear Research Centre on the Maâmora site, located in the province of Kénitra. The establishment of this Centre aims to fulfil one of the principal tasks of the CNESTEN as set out in Act No. 17-83 of 14 November 1986 setting up the CNESTEN, as amended by Act No. 12-97 of 2 August 1997 (see *Nuclear Law Bulletin* No. 51). These tasks include the promotion of nuclear techniques in different socioeconomic sectors; research and development activities in the field of nuclear energy, science and techniques; monitoring technological development in the electronuclear field; providing support and advice to the State (through the Nuclear Research Centre) in relation to nuclear and radiological safety; training in the nuclear field; production and commercialisation of radioisotopes and radiopharmaceuticals; and the management of radioactive waste.

The 1999 Decree describes the installations (called modules) making up the Nuclear Research Centre and in respect of which the CNESTEN is to be the operator. These include a research reactor called Triga Mark II, a laboratory and modules for safety, technology, waste and technical and administrative support.

The Decree sets out particular technical criteria which must be observed by the CNESTEN, governing the quality of the Nuclear Research Centre installations, the protection of these installations against earthquakes, fires and attacks of internal or external origin, changes in the environment around the Centre, the confinement of radioactive materials in its installations, etc.

The Decree prohibits the final disposal of radioactive waste on the site of the Maâmora Nuclear Research Centre. However, it does provide that installations for the management of radioactive waste will reduce the volume and the noxiousness of waste generated within and outside the Centre.

The Decree also contains provisions governing the transport of radioactive materials. It furthermore sets out a number of the responsibilities of the CNESTEN. These include, for example, controlling the releases from the installations of the Centre and their potential consequences on the environment; presenting certain documents to the Minister responsible for Energy, i.e. a provisional safety analysis report in support of an application to authorise initial tests, a definitive safety report to accompany the application for an operating licence and a document setting out the appropriate measures which will be taken in relation to the physical protection of the installations; the establishment of a system of accounting of nuclear materials on the site of the Nuclear Research Centre, the notification of the Ministers for Energy, State, the Interior, Health and the Environment within 24 hours of any nuclear accident occurring in the installations of the Centre. The CNESTEN is entirely responsible for nuclear safety in its installations and it should demonstrate to the Minister responsible for Energy that measures are in place governing third party liability for nuclear damage.

Norway

Radiation Protection

Act on Radiation Protection and Use of Radiation (2000)

This Act was adopted on 12 May 2000 and entered into force on 1 July 2000 (see *Nuclear Law Bulletin* No. 67). The text of the Act is reproduced in the Supplement to this *Bulletin*.

Poland

General Legislation

Atomic Energy Act (2000)

This Act was adopted on 29 November 2000 and will enter into force on 1 January 2002 (see *Nuclear Law Bulletin* No. 67). The text of the Act is reproduced in the Supplement to this *Bulletin*.

Romania

General Legislation

Amendment to the Law on the Safe Conduct of Nuclear Activities (2001)

Section 8 of Law No. 11/1996 on the Safe Conduct of Nuclear Activities of 10 October 1996 (the text of which is reproduced in the Supplement to *Nuclear Law Bulletin* No. 59) was amended by Law No. 384 of 10 July 2001. This amendment introduces a new paragraph into this Section to allow not only the legal entities but also certain legally constituted bodies without legal personality as listed in a new Annex 4 to the Law, to carry out nuclear activities in Romania.

Radiation Protection

Regulation on the Operational Protection of Outside Workers Exposed to the Risk of Ionising Radiation during their Activities in Controlled Areas (2001)

This Regulation, which was adopted on 20 August 2001, implements 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 controlled areas (see *Nuclear Law Bulletin* No. 47). Pursuant to this Regulation, outside undertakings are required to comply with reporting requirements and to provide information, training and individual radiological monitoring documents, issued by the National Commission for Nuclear Activities Control (CNCAN). The Regulation establishes a system of prior authorisation of outside undertakings by the CNCAN. Operators of controlled areas must ensure protection of outside workers. Finally, the Regulation sets out in its Annex the individual radiological monitoring document, issued by the CNCAN, which bears an identification number.

Russian Federation

Organisation and Structure

Reorganisation of Rosenergoatom (2001)

In the context of the reform of the energy industry and pursuant to a Decree of 11 July 2001, the Russian State Agency for the Generation of Electric and Thermal Power at Nuclear Power Plants (*Rosenergoatom*) was reorganised by a governmental Order of 8 September 2001. According to this Order, 20 individual enterprises in the nuclear sector, including nine nuclear power plants in operation, six nuclear units under construction, three enterprises for repair and maintenance of NPPs, a firm specialised in NPP management training and consulting, and the Research and Development Institute of NPP Operation, are to merge with *Rosenergoatom*. This is the case in particular of the Leningrad plant which was not until now under its control. Accordingly, *Rosenergoatom* will be the sole nuclear utility in the Russian Federation to fulfil the role of nuclear operator and nuclear generating company.

Regulations on Nuclear Trade

Laws allowing the import of spent nuclear fuel for storage and reprocessing (2001)

On 6 June 2001 the Duma adopted three Laws allowing the import of spent nuclear fuel for storage and reprocessing. These Laws were signed by the President of the Russian Federation on 10 July 2001, together with a Decree setting up a special commission for the import of spent nuclear fuel. This Commission will comprise 20 members (five each nominated by the President, the Duma, the Council of Federation and the Government).

The first Law amends Section 50 of Law No. 2060-1 on Environmental Protection of 19 December 1991, which prohibited the import of spent fuel and radioactive waste except from Russian-made reactors. The 2001 Law states that import of spent fuel from foreign countries to the Russian Federation for storage and/or reprocessing is allowed. Such imports are subject to governmental assent and to the provisions of international treaties to which the Russian Federation is a Party. The principles of non-proliferation, environmental protection and economic interest of the project shall also be taken into account.

The second text introduces amendments and additions to the Law on the Use of Atomic Energy of 21 November 1995 (see *Nuclear Law Bulletin* No. 58; the text of this Law is reproduced in the Supplement to *Bulletin* No. 57). It defines the terms “fuel assembly” and “spent fuel assembly” and states that their export and import will be governed by the terms of civil contracts.

Finally, the Law on Special Ecological Programmes for the Rehabilitation of Radioactively Contaminated Areas establishes the legal framework governing such Programmes. The Special Ecological Programmes aim to ensure radiation protection of the public, general decrease of the risk posed by radiation and improvement of the ecological situation in radioactively contaminated areas. Measures of rehabilitation of such areas shall be implemented and radioactive materials taken out of operation shall be disposed of. These programmes shall be financed from income generated by foreign trade transactions involving spent nuclear fuel assemblies. The funds collected will be transferred to a special account of the Ministry of Atomic Energy (Minatom). Such foreign trade transactions shall be approved by the Government and 75% of income generated shall be used to finance special ecological programmes. The Government shall prescribe the maximum number of spent fuel assemblies which may be imported per year into the Russian Federation, upon agreement with the authorities on the territory of which the spent fuel reprocessing installation is located.

Slovenia

Organisation and Structure

Transfer of responsibilities in the energy sector (2001)

Pursuant to the Act on the Organisation and Assignment of Ministerial Responsibilities, as amended on 12 April 2001, the energy sector was transferred from the Ministry of Economy to the Ministry of the Environment and Spatial Planning.

Spain

Radiation Protection

Royal Decree approving the Regulations on Health Protection against Ionising Radiation (2001)

A Royal Decree No. 783/2001 approving Regulations on Health Protection against Ionising Radiation was adopted on 6 July 2001. This text, which repeals Decree No. 53/1992 of 24 January 1992 on the same subject (see *Nuclear Law Bulletin* No. 49), aims to implement Council Directive 96/29/Euratom 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 (see *Nuclear Law Bulletin* No. 58). To this effect, it establishes standards governing radiation protection, covering in particular the principles of justification, optimisation and dose limitation.

Ukraine

Organisation and Structure

Decree establishing Chernobyl Nuclear Power Plant (2001)

Following the adoption of the Presidential Decree of 25 September 2000 concerning the planned shut-down of the Chernobyl nuclear power plant, the Cabinet of Ministers adopted Decree No. 399 establishing a state-owned specialised company called Chernobyl Nuclear Power Plant on 25 April 2001.

While the plant was previously a division of the National Nuclear Energy Generating Company (*Energoatom*), Chernobyl Nuclear Power Plant, which will inherit property and responsibilities from *Energoatom*, is now to be under the direct supervision of the Ukrainian President and will report to the Minister of Fuel and Energy, who appoints its Director.

The Chernobyl Nuclear Power Plant's main tasks will be the following:

- ensuring the safe decommissioning of the Chernobyl site's three nuclear units and other nuclear units;
- transforming the sarcophagus at the destroyed fourth unit into an ecologically safe system;
- managing the radioactive waste and spent fuel generated by the Chernobyl nuclear power plant; and
- participating in international decommissioning projects.

United States*

Radiation Protection

Public Health and Environmental Radiation Protection Standards for Yucca Mountain (2001)

The 1992 Energy Policy Act (EPACT; see *Nuclear Law Bulletin* No. 51) directed the Environmental Protection Agency (EPA) to develop site-specific radiation standards for a repository at Yucca Mountain, Nevada,[1] based on recommendations of the National Academy of Sciences.[2] The Nuclear Regulatory Commission (NRC) would then modify its criteria consistent with those of the EPA.[3] On 13 June 2001 the EPA published "Public Health and Environmental Radiation Protection Standards for Yucca Mountain, Nevada" which address all potential sources of exposure (air, ground-water and soil) and limit an individual's annual radiation exposure from all pathways (ingestion, inhalation and physical contact) to 15 millirem (mrem) for a 10 000 year compliance period.[4] The new standards include separate ground-water protection criteria whereby radionuclide releases at Yucca Mountain may not cause radioactivity to exceed "4 mrem per year to the whole body or any organ based on drinking two liters of water per day from the representative volume" over the 10 000 year period.

Standards for storage (Subpart A Parts 197.1-197.5)

While the Department of Energy currently conceives of the Yucca Mountain repository as a facility for permanent disposal, the EPA decided to develop storage and disposal standards on the grounds that the situation could change. Radioactive material stored inside the repository is subject to the new standards while EPA generic standards at Subpart A of 40 C.F.R. Part 191 would apply to material that the Department might handle and store above ground at the Yucca Mountain site.[5] Under

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* This note was kindly submitted by Ms. Sophia Angelini, Attorney Adviser, Office of Civilian Nuclear Programs, Department of Energy.

1. The Nuclear Waste Policy Act established the Federal Government's responsibility to dispose of spent nuclear fuel and high-level radioactive waste and provided for a geologic repository which would be operational by 1998. Yucca Mountain is the Department of Energy's potential geologic repository designed to store and dispose of spent nuclear fuel and high-level radioactive waste.

2. The EPA proposed "Environmental Radiation Protection Standards for Yucca Mountain, Nevada", 64 Fed. Reg. 46976 (1999) (to be codified at 40 C.F.R. Part 197).

3. The NRC proposed "Disposal of High-Level Radioactive Wastes in a Proposed Geologic Repository at Yucca Mountain, Nevada", 64 Fed. Reg. 8640 (1999) (to be codified at 10 C.F.R. Part 63).

4. 66 Fed. Reg. 32074 (2001) (40 C.F.R. Part 197). Detailed analysis and documents relevant to this rulemaking are available at www.epa.gov/radiation/yucca.

5. Subpart A of 40 C.F.R. Part 191 requires that the Department manage and store spent nuclear fuel, high-level radioactive waste and transuranic radioactive wastes at a site, such as Yucca Mountain, in a manner that provides "reasonable assurance" that the annual dose equivalent to any member of the public in the general environment will not exceed 25 mrem/year to the whole body.

Part 197, combined doses incurred by any individual in the general environment at Yucca Mountain from waste storage inside and outside the repository must not exceed 15 mrem "committed effective dose equivalent" (CEDE) per year (Part 197.4).[6]

Standards for disposal (Subpart B Parts 197.12-197.36)

Individual-protection standard (197.20 and 197.25) specifies the maximum dose that a "reasonably maximally exposed individual" (RMEI)[7] may receive from releases from the Yucca Mountain disposal system. The EPA established a dose limit of 15 mrem CEDE per year individual-protection standard, corresponding approximately to about 8,5 fatal cancers per million members of the population per year.[8]

Ground-water protection standards (Part 197.30) specify that the Department must demonstrate a reasonable expectation that for 10 000 years after disposal, releases of radionuclides from the disposal system will not cause radioactivity in the representative volume of water to exceed 4 mrem per year to the whole body or any organ based on drinking two litres of water per day from the representative volume.

Human-intrusion standard (Part 197.25) specifies that the Department must determine when the waste package would degrade sufficiently such that human intrusion could occur without recognition by the drillers. The Department must demonstrate a reasonable expectation that the RMEI would receive no more than an "annual committed effective dose" of 15 mrem as a result of human intrusion.[9]

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6. "CEDE" is defined at Part 197.2 as "the effective dose equivalent received over a period of time (e.g. 30 years), as determined by the NRC, by an individual from radionuclides internal to the individual following a one-year intake of those radionuclides". 40 C.F.R. part 197.2 contains other definitions applicable to Subpart A.

7. The EPA describes its model of an RMEI as a theoretical individual representative of a future population group or community termed "rural residential". This speculative RMEI would, *inter alia*, live in the vicinity of Yucca Mountain and Amargosa Valley, do personal gardening and drink two liters per day of water contaminated with radionuclides.

8. The EPA rejected the risk-based standard recommended by the National Academy of Science.

9. "Annual committed effective dose equivalent" defined as the effective dose equivalent received by an individual in one year from radiation sources external to the individual plus the committed dose equivalent. "Committed effective dose equivalent" is defined as the effective dose equivalent received over a period of time (e.g., 30 years) as determined by the NRC, by an individual from radionuclides internal to the individual following a one-year intake of those radionuclides.

INTERNATIONAL REGULATORY ACTIVITIES

OECD Nuclear Energy Agency

INEX 2000 – Workshop on the Indemnification of Damage in the Event of a Nuclear Accident (2001)

A Workshop on the Indemnification of Damage in the Event of a Nuclear Accident was held on 26-28 November 2001, as part of the International Nuclear Emergency Exercise – INEX 2000. The INEX Programme, carried out by the OECD Nuclear Energy Agency (NEA) since 1993, addresses Member States' concerns to promote means of ensuring effective co-ordination between the various bodies which have a role to play in the event of a nuclear accident, in order to ensure rapid and efficient management of such a situation. This programme is composed of a series of exercises simulating nuclear accidents in which interested countries may participate.

For the first time, it was decided to incorporate third party liability aspects into the INEX 2000 Exercise. The technical exercise, which took place on 22 and 23 May 2001 at the Gravelines nuclear power plant, located near Dunkerque in the North of France, was therefore followed by a Workshop on the Indemnification of Damage in the Event of a Nuclear Accident.

The Workshop aimed to test the mechanisms which apply to the compensation of potential victims of such an accident, both in France and in affected neighbouring countries. More particularly with regard to the NEA, it was also deemed interesting to examine the manner in which the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention would be applied.

The Workshop was organised in three main stages:

- the alert phase: "grave and imminent danger of a nuclear accident";
- the accident phase: effective releases, possible damage; and
- the post-accident phase: putting into operation most of the procedures to identify damage and provide compensation.

The following aspects were in particular examined: intervention of the nuclear operator's insurer, dissemination of information concerning the rights of potential victims and compensation claims, emergency assistance payments, compensation claims handling, and the interface between the accident State and the international nuclear third-party liability regime.

International Atomic Energy Agency

Resolutions adopted by the IAEA General Conference (2001)

The 45th Session of the IAEA General Conference was held in Vienna from 17 to 21 September 2001 with delegations from 132 Member States and representatives of various international organisations in attendance. Resolutions were adopted *inter alia* in the following areas.

Nuclear, Radiation, Transport and Waste Safety

The Conference adopted a number of resolutions to strengthen international co-operation in these fields. Under Resolution No. 10 on Measures to Strengthen International Co-operation in Nuclear, Radiation, Transport and Waste Safety, the General Conference notes with satisfaction that the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management entered into force on 18 June 2001. It appeals to all Member States which have not yet taken the necessary steps to become party to the above-mentioned Convention and to the Convention on Nuclear Safety to do so, and also to implement the Code of Conduct on the Safety and Security of Radioactive Sources. The General Conference invites the Secretariat to complete the corpus of the IAEA safety requirements.

Regarding transport safety, the General Conference urges Member States which do not have national regulatory texts governing the transport of radioactive material to adopt such documents expeditiously, ensuring that they are in conformity with the 1996 edition of the Agency's Transport Regulations. It requests that Member States make use where appropriate of the Transport Safety Appraisal Service established by the IAEA Secretariat with a view to achieving the highest possible levels of safety during the transport of radioactive materials. It emphasises the particular importance of having effective liability mechanisms to ensure the indemnification of damage resulting from nuclear accidents.

Physical Protection and Illicit Trafficking in Nuclear Materials

In Resolution No. 14 on Measures to Improve the Security of Nuclear Materials and Other Radioactive Materials, the General Conference invites States that have not yet done so to accede to the Convention on the Physical Protection of Nuclear Material, to apply relevant physical protection recommendations and to participate in the illicit trafficking database programme on a voluntary basis. It invites the UN General Assembly, in its continued elaboration of an international convention on the suppression of acts of nuclear terrorism, to bear in mind IAEA activities in preventing and combating illicit trafficking in nuclear materials and other radioactive materials. It requests the Director General to review thoroughly the activities and programmes of the Agency with a view to strengthening the Agency work relevant to preventing acts of terrorism involving nuclear materials and other radioactive materials.

Strengthening IAEA Technical Co-operation Activities

Resolution No. 11 reiterates the need to strengthen the Technical Co-operation Strategy through the development of effective programmes aimed at promoting and improving the scientific, technological and regulatory capabilities of developing countries regarding peaceful, safe and

regulated applications of atomic energy and nuclear techniques in the fields of – *inter alia* – food and agriculture, human health, industry, water resource management and environment. The General Conference also requests the Director General to help interested Member States to obtain access to relevant information on the role of nuclear power in mitigating greenhouse gas emissions and to provide factual input to the forthcoming World Summit on Sustainable Development.

Strengthening the IAEA's Safeguards System

In Resolution No. 13, "Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Additional Protocol", the General Conference welcomes the fact that 58 States and other Parties to IAEA safeguards agreements have signed Additional Protocols aimed at strengthening the effectiveness and improving the efficiency of the safeguards system. It requests States and other Parties to Agreements which have not yet done so to sign Additional Protocols promptly, and invites the signatories of these Protocols to implement them.

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

Resolution No. 16 expresses the General Conference's concern about its inability to verify the correctness and completeness of the initial declaration made by the DPRK and is therefore unable to conclude that there has been no diversion of nuclear material in the DPRK. The General Conference urges again the DPRK to comply fully with its safeguards agreement and to co-operate with the Agency in making the first concrete steps needed for the implementation of the generic requirements for the verification of the correctness and completeness of the DPRK's initial declaration.

Nuclear Inspections in Iraq

In Resolution No. 17, the General Conference expresses its concern about the Agency's inability to carry out its ongoing monitoring and verification activities related to Iraq's past clandestine nuclear programme, and it invites Iraq to comply with the relevant UN Security Council resolutions. It also requests the Agency, in light of the 32-month break since it was last able to implement its mandate under the relevant Security Council resolutions, to place highest priority on regaining a level of knowledge of the status of Iraq's nuclear-related assets required for the full implementation of the Agency's system of ongoing monitoring and verification.

Non-proliferation Safeguards in the Middle East

In Resolution No. 18, the General Conference reaffirms the urgent need for States in the Middle eats to forthwith accept the application of full-scope Agency safeguards to all their nuclear activities as a step towards establishing a nuclear-weapon-free zone in that region. In this respect, it calls upon all States concerned to take the steps required for the establishment of such a zone and to adhere to international non-proliferation regimes.

AGREEMENTS

BILATERAL AGREEMENTS

Argentina – Australia

Agreement concerning Co-operation in the Peaceful Uses of Nuclear Energy (2001)

On 8 August 2001, Australia and Argentina signed this Agreement which establishes a framework for co-operation in basic and applied research related to the peaceful uses of nuclear energy; research, development, design, construction and operation of nuclear research reactors; technology on the nuclear fuel cycle, including exploration and exploitation of nuclear ores, the production of nuclear fuel, and the management of spent fuel and radioactive waste; industrial production of components, equipment and materials to be employed in nuclear reactors; nuclear medicine, production of radioisotopes and their application; radiological protection, nuclear safety and regulation, the assessment of the radiological impact of nuclear energy and its nuclear fuel cycle; and technology for nuclear safeguards and physical protection.

The co-operation shall be carried out through mutual assistance related to education and training of scientific and technical personnel; exchange of experts and scientists; joint studies and projects on scientific research and technological development; deliveries of nuclear material and equipment; and exchange of information and documentation.

The Agreement includes a requirement that any transfer of nuclear material or equipment between Australia and Argentina must be subject to International Atomic Energy Agency safeguards and should comply with Australia's policy on the control of nuclear materials.

Argentina – Brazil

Joint Declaration regarding the Creation of the Argentinian-Brazilian Agency for Nuclear Energy Applications (2001)

On 14 August 2001, Argentina and Brazil signed this Declaration establishing the Argentinian-Brazilian Agency for Nuclear Energy Applications (*Agencia Argentino-Brasilena de Aplicaciones de la Energia Nuclear* – ABAEN). The purpose of this Agency is to promote and strengthen the co-operation between these countries in the field of the peaceful uses of nuclear energy, to identify fields in which joint projects could be developed and to establish mechanisms to facilitate their implementation.

To this effect, the Agency shall carry out the following activities: promoting progress in the peaceful uses of nuclear energy; encouraging co-operation activities in particular in relation to nuclear power generation and the nuclear fuel cycle; identifying new possibilities of co-operation; promoting joint actions to develop the nuclear power infrastructure in both countries; exchanging information on activities in relation to nuclear energy applications; and establishment of a joint programme for the development of new technologies in the nuclear field; etc.

Co-operation shall essentially focus upon nuclear power generation, the nuclear fuel cycle, radioisotope production, radioactive waste management and development of technology to design and construct advanced power reactors.

Australia – Czech Republic / Australia – Hungary

Agreements on Co-operation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material (2001)

Australia signed bilateral Agreements for Co-operation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material with the Czech Republic and Hungary on 27 July and 8 August 2001 respectively. These Agreements stipulate strict safeguards, and verification and physical protection measures over uranium which could be supplied from one Party to the other for nuclear power generation.

Australia – Indonesia

Arrangement Concerning Co-operation on Nuclear Safeguards and Related Matters (2001)

The Australian Safeguards and Non-Proliferation Office (ASNO) and the Indonesian Nuclear Energy Control Board (BAPETEN) signed a Memorandum of Understanding (MOU) for an Arrangement Concerning Co-operation on Nuclear Safeguards and Related Matters on 29 June 2001.

The MOU establishes a framework governing co-operation in the safeguards area, including exchanges of scientific and technical staff and joint participation in research and development projects on IAEA safeguards. The MOU does not cover provision of nuclear material or nuclear technology.

Austria – Switzerland

Agreement on the Early Exchange of Information in the Field of Nuclear Safety and Radiation Protection (1999)

This Agreement, concluded on 19 March 1999 between the Government of the Republic of Austria and the Swiss Federal Council, entered into force on 1 January 2001.

The Agreement derives, in part, from the Convention on Early Notification of a Nuclear Accident adopted on 26 September 1986 under the auspices of the IAEA (the text of this Convention is reproduced in *Nuclear Law Bulletin* No. 38), which provides in Article 9 that Contracting Parties

may conclude bilateral agreements for this same purpose. To date, Switzerland has concluded bilateral agreements of this nature with France, Germany and Italy. The Agreement with Austria therefore completes Switzerland's arrangements with its neighbouring states for a system of rapid reciprocal information in the fields of nuclear energy and radiation protection.

The Agreement defines the incidents which give rise to the early notification obligation and the information procedure. It establishes a system of information in stages. The first stage consists of a rapid notification of the date and location of the incident, its nature and possible consequences as well as those measures which should be taken immediately. A second phase provides for more detailed information on the presumed or certified causes of the incidents, and its probable development. Calculations of releases of radioactivity and their development over time must also be communicated. The State where the accident took place is also required to indicate whether the air or water has been contaminated as well as the meteorological and hydrological data concerning those elements. That State transfers information on the radioactivity in the environment and in consumer goods, indicates any measures taken or to be taken on its territory, and informs the other State of measures taken to inform the public. The Agreement furthermore contains a provision on co-operation between the two States and the establishment of a permanent contact body responsible for implementing the Agreement.

This instrument finally provides that once a year, the Parties inform each other on their nuclear programme, their experience in the field of operation of nuclear power plants and their legislative instruments in the field of nuclear safety and radiation protection. The Parties are obliged to inform each other of the current state of nuclear installations whether existing, under construction, or at the planning stage. They also undertake to inform each other of any major modifications to installations or projects to close down or dismantle installations, including any relevant documents. One of the articles in the Agreement deals with information during licensing procedures according to the nuclear legislation of each State. During these procedures, each Party provides access to the relevant documents to the other Party depending on its own criteria (party to an application for an administrative licence/authorisation in the field of nuclear energy). The transfer of such documents aims to allow the other Party to take position on the project. Each Party also organises the measurement of radioactivity on its territory and communicates the results to the other Party once a year.

Finally, the Agreement contains various annexes, including one which defines, for Switzerland, the conditions which a person or an organisation must meet in order to be accepted as Party to an application for an administrative licence/authorisation in the field of nuclear energy.

Brazil – United States

Extension of the Agreement concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications (2001)

On 19 September 1995, the National Nuclear Energy Commission (CNEN) of Brazil and the US Department of Energy (DOE) signed an Agreement concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications for a five-year period. Pursuant to Article 9 of this Agreement dealing with its extension and modification, on 17 September 2001, the

Parties signed a new Agreement confirming its application for an additional five years, i.e. until 19 September 2005, and its automatic renewal for further five-year periods thereafter.

The Agreement aims to enhance safeguards at all major nuclear facilities located in Brazil where nuclear materials might be diverted for military purposes. Under the Agreement, the DOE and the CNEN shall co-operate to:

- implement physical protection methods at Angara I and II nuclear power reactors;
- develop an unattended monitoring system for the Angara II nuclear power reactor;
- develop a remote monitoring system at Angara II to track spent nuclear fuel from storage to final disposal;
- implement environmental sampling as a tool for verification of activities involving nuclear materials at enrichment facilities in Brazil.

Czech Republic – Republic of Korea

Agreement for Co-operation in the Peaceful Uses of Nuclear Energy (2001)

This Agreement was signed on 16 March 2001 and entered into force on 1 June 2001 for a period of ten years which may be extended for additional periods of five years.

The Agreement provides for co-operation related to the use, development and application of nuclear energy for peaceful purposes. It may include *inter alia*: basic and applied research and development with respect to the peaceful uses of nuclear energy; research, design, construction, operation and maintenance of nuclear power plants and research reactors; manufacture and supply of nuclear fuel elements to be used in nuclear power plants and research reactors; production and application of radioactive isotopes in industry, agriculture and medicine; nuclear safety and regulation, radiation protection, environment protection, radioactive waste management; nuclear material control and physical protection; industrial co-operation; supply of technical training, assistance and services; exploration for and development of uranium resources.

Under the terms of the Agreement, nuclear materials, equipment and technology covered by it may not be used for the production of nuclear weapons and explosive devices. Compliance with this obligation shall be verified in accordance with the procedure of the IAEA Safeguards System. The Agreement does not allow the transfer of nuclear materials, equipment and technology under its scope to a third party unless the Parties agree in writing.

European Union – Russian Federation

Agreements on Nuclear Safety and Controlled Nuclear Fusion (2001)

On 2 October 2001, the European Union and the Russian Federation signed two Co-operation Agreements on Nuclear Safety and Controlled Nuclear Fusion, respectively.

The Agreement on Nuclear Safety contains provisions on reactor safety, radiation protection, radioactive waste management, decommissioning and accountancy and control of nuclear material.

The Agreement on Nuclear Fusion provides for co-operation in the fields of research into generating energy by controlled fusion and of the technology needed for the International Thermonuclear Experimental Reactor (ITER) project.

The co-operation will include exchanges of technical knowledge, experts, materials and equipment, training and joint studies and activities.

These Agreements are concluded for a ten-year and five-year period, respectively, renewable for a further five years.

France – United States

Agreement for Co-operation in Advanced Nuclear Reactor Science and Technology (2001)

In implementation of the Agreement for Co-operation in Advanced Nuclear Reactor Science and Technology, signed on 18 September 2000 (see *Nuclear Law Bulletin* No. 67), the Atomic Energy Commission (France) and the US Department of Energy signed an Agreement on 9 July 2001 aiming to strengthen and broaden their co-operation in advanced nuclear reactor science and technology in order to improve cost, safety and proliferation-resistance of nuclear power systems. The Agreement entered into force for a five-year period upon signature of the Parties.

Co-operation will focus on:

- advanced reactor developments for future-generation reactors;
- advanced reactor fuel and reactor-cycle integration;
- advanced accelerator applications, including accelerator-driven systems for transmutation of waste;
- advanced fuel and material irradiation and use of experimental facilities.

Japan – United Kingdom

Co-operation Agreement on Advanced Nuclear Fuel Cycle, Fast Breeder Reactor and Other Related Technologies (2001)

On 23 April 2001, Japan Nuclear Cycle Development Institute (JNC) and the British Nuclear Fuels plc (BNFL) signed this five-year Co-operation Agreement. Under this Agreement, both Parties plan to promote mutual co-operation in exchanging information and personnel, and conducting joint research in the field of advanced nuclear fuel cycle technology, including fast breeder reactor (FBR) fuel cycle, FBR technology and radioactive waste management.

Republic of Korea – United States

Annex IV Joint Project on Cintichem Technology (2000)

On 29 June 2000, the Department of Energy of the United States (DOE) and the Korea Atomic Energy Research Institute (KAERI) signed an Annex on nuclear energy (Annex IV Joint Project on Cintichem Technology) under the 1996 Memorandum of Understanding (MOU) between the DOE and the Ministry of Science and Technology of the Republic of Korea for a Co-operative Laboratory Relationship.

The MOU provides for co-operation in the following areas:

- nuclear power and research reactors technology;
- nuclear waste management;
- nuclear safety;
- applications of radiation and radioisotopes;
- nuclear safeguards technology;
- basic sciences;
- education;
- health physics; and
- environmental research related to nuclear technology.

The purpose of the Annex, which will remain in force until 29 June 2005, is to provide the KAERI with the Cintichem process technology for production of molybdenum 99 owned by the DOE. The DOE agrees to provide relevant technical information for Cintichem processing and waste treatment using both low-enriched uranium and highly-enriched uranium targets, as well as for the design, fabrication and irradiation of such targets.

Morocco – United States

Protocol amending the Co-operation Agreement on the Peaceful Uses of Nuclear Energy (2001)

This Protocol, signed by the Kingdom of Morocco and the United States of America on 20 September 2001, amends the Framework Agreement concluded by the two parties on 30 May 1980, and extends its validity for 20 years, renewable for further periods of 5 years. The Agreement had originally entered into force on 16 May 1981 for a period of 20 years which expired on 16 May 2001.

The Framework Agreement set out the basis for co-operation between the Parties on the peaceful uses of nuclear energy. The Parties may transfer information and provide nuclear materials, equipment, and nuclear science and technology components. They undertake in particular not to reprocess materials received or to enrich uranium transferred.

This text also establishes the legal bases allowing the construction in Morocco of a reactor for the National Centre of Nuclear Energy, Science and Technology (see Chapter "National Legislative and Regulatory Activities" of this *Bulletin*).

Although the Framework Agreement already provided that each of the parties was responsible for the physical protection of materials and equipment transferred and placed under its jurisdiction, the Protocol further strengthens the requirements concerning the levels of physical protection to be guaranteed, which should correspond to the recommendations published in IAEA INFCIRC/225/ Rev. 4. Finally, materials transferred to Morocco are to be subject to IAEA safeguards.

MULTILATERAL AGREEMENTS

Agreement for Information Exchange on Radiological Surveillance in Northern Europe (2001)

This Agreement was concluded by Denmark, Estonia, Finland, Germany, Iceland, Lithuania, Norway, Poland, Russia and Sweden on 7 June 2001. It aims to promote multilateral co-operation for data exchange on radiological surveillance.

Under the Agreement, the Parties are required to establish the legal and administrative bases for improving exchange of radiological data both in normal circumstances and during nuclear or radiological emergency situations. The Parties undertake to provide each other with up-to-date data from national radiation monitoring networks without delay and compensation. Unverified data must be declared as such, and recipients of unverified data may not make it available to the public or a third party without the originator's consent.

The Arrangement, which is not subject to ratification, will enter into force when at least six Parties have expressed their consent to be bound by it. The Government of Norway is designated as the depository of this Agreement.

Status of Conventions in the Field of Nuclear Energy

1960 Convention on Third Party Liability in the Field of Nuclear Energy

Pursuant to an authorisation granted by an Act of 19 July 2000 (Official Gazette, International Treaties No. 18/2000), Slovenia acceded to the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982. This accession became effective on 16 October 2001.

This is the first time that a non-Member country of the OECD has acceded to the Paris Convention and Slovenia's accession brings the number of Contracting Parties to the Convention to 15.

The Paris Convention was adopted on 29 July 1960 under the auspices of the OECD, and was the first Convention to set forth the following fundamental principles establishing the special liability and compensation regime governing nuclear incidents:

- The strict liability (without proof of fault) and the exclusive liability (channelling) of the operator of the nuclear installation in which the incident occurs; the same principle applies to the transportation of nuclear substances.

- The limitation upon the operator's liability both in terms of amount and in terms of time (claims must be brought within ten years from the date of the nuclear incident).

- The operator must have financial security equivalent to the amount of its liability.

- The courts of only one jurisdiction are competent to hear and rule on claims for compensation resulting from a nuclear incident – normally those of the State where the incident occurred – and final judgements are enforceable in all other Contracting Parties.

- The principle of non-discrimination based on nationality, domicile or residence between victims of a nuclear incident.

Slovenia, which is already a Contracting Party to the 1963 Vienna Convention on Civil Liability for Nuclear Damage and the 1988 Joint Protocol relating to the application of the Vienna Convention and the Paris Convention, has submitted a proposal to accede to the 1963 Brussels Convention Supplementary to the Paris Convention. The Brussels Convention is designed to provide additional compensation to victims of a nuclear incident, by means of public funds up to 300 million Special Drawing Rights.

Both the Paris Convention and the Brussels Supplementary Convention are currently the subject of revision negotiations under the auspices of the OECD Nuclear Energy Agency.

Status of ratifications or accessions

State	**Convention**	**1964 Additional Protocol**	**1982 Protocol**
Austria*	...	...	...
Belgium	3 August 1966	3 August 1966	19 September 1985
Denmark	4 September 1974	4 September 1974	16 May 1989
Finland	16 June 1972	16 June 1972	22 December 1989
France	9 March 1966	9 March 1966	6 July 1990
Germany	30 September 1975	30 September 1975	25 September 1985
Greece	12 May 1970	12 May 1970	30 May 1988
Italy	17 September 1975	17 September 1975	28 June 1985
Luxembourg*	...	...	...
Netherlands	28 December 1979	28 December 1979	1 August 1991
Norway	2 July 1973	2 July 1973	3 June 1986
Portugal	29 September 1977	29 September 1977	28 May 1984
Slovenia	16 October 2001	16 October 2001	16 October 2001
Spain	31 October 1961	30 April 1965	7 October 1988
Sweden	1 April 1968	1 April 1968	8 March 1983
Switzerland*	...	...	...
Turkey	10 October 1961	5 April 1968	21 January 1986
United Kingdom	23 February 1966	23 February 1966	19 August 1985

* Austria, Luxembourg and Switzerland signed the Paris Convention upon its adoption, but have not ratified this instrument.

1963 Vienna Convention on Civil Liability for Nuclear Damage

Since the last update in *Nuclear Law Bulletin* No. 63 (June 1999), Saint Vincent and the Grenadines has become a Contracting Party to this Convention. Therefore, as of 16 October 2001, there are 33 Parties to this Convention.

1979 Convention on Physical Protection of Nuclear Material

Since the last update in *Nuclear Law Bulletin* No. 66 (December 2000), Trinidad and Tobago has become a Contracting Party to this Convention. Therefore, as of 16 October 2001, there are 69 Parties to this Convention.

1986 Convention on Early Notification of a Nuclear Accident

Since the last update in *Nuclear Law Bulletin* No. 66 (December 2000), Saint Vincent and the Grenadines has become a Contracting Party to this Convention. Therefore, as of 16 October 2001, there are 87 Parties to this Convention.

1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

Since the last update in *Nuclear Law Bulletin* No. 66 (December 2000), Saint Vincent and the Grenadines has become a Contracting Party to this Convention. Therefore, as of 16 October 2001, there are 83 Parties to this Convention.

1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention

Since the last update in *Nuclear Law Bulletin* No. 65 (June 2000), three States, namely Germany, Greece and Saint Vincent and the Grenadines, have become Contracting Parties to this Protocol. Therefore, as of 16 October 2001, there are 24 Parties to this Protocol.

1996 Comprehensive Nuclear Test Ban Treaty

Since the last update in *Nuclear Law Bulletin* No. 63 (June 1999), 50 States have become Contracting Parties to this Treaty. Therefore, as of 16 October 2001, there are 84 Parties to this Treaty, including 31 States whose signature and ratification are required for the Treaty to enter into force.

* Indicates one of the 44 States whose ratification is required for the Treaty to enter into force.

Status of signatures, ratifications, acceptances, approvals or accessions

State	Date of Signature	Date of Deposit of Instrument
Albania	27 September 1996	
Algeria*	15 October 1996	
Andorra	24 September 1996	
Angola	27 September 1996	
Antigua and Barbuda	16 April 1997	
Argentina*	24 September 1996	4 December 1998
Armenia	1 October 1996	
Australia*	24 September 1996	9 July 1998
Austria*	24 September 1996	13 March 1998
Azerbaijan	28 July 1997	2 February 1999
Bahrain	24 September 1996	
Bangladesh*	24 October 1996	8 March 2000
Belarus	24 September 1996	13 September 2000
Belgium*	24 September 1996	29 June 1999
Benin	27 September 1996	6 March 2001
Bolivia	24 September 1996	4 October 1999
Bosnia and Herzegovina	24 September 1996	
Brazil*	24 September 1996	24 July 1998
Brunei Darussalam	22 January 1997	
Bulgaria*	24 September 1996	29 September 1999
Burkina Faso	27 September 1996	
Burundi	24 September 1996	
Cambodia	26 September 1996	10 November 2000
Canada*	24 September 1996	18 December 1998
Cape Verde	1 October 1996	
Chad	8 October 1996	
Chile*	24 September 1996	12 July 2000
China*	24 September 1996	
Colombia*	24 September 1996	
Comoros	12 December 1996	
Congo	11 February 1997	
Congo, Democratic Republic of*	4 October 1996	
Cook Islands	5 December 1997	

State	Date of Signature			Date of Deposit of Instrument		
Costa Rica	24	September	1996	25	September	2001
Côte d'Ivoire	25	September	1996			
Croatia	24	September	1996	2	March	2001
Cyprus	24	September	1996			
Czech Republic	12	November	1996	11	September	1997
Denmark	24	September	1996	21	December	1998
Djibouti	21	October	1996			
Dominican Republic	3	October	1996			
Ecuador	24	September	1996			
Egypt*	14	October	1996			
El Salvador	24	September	1996	11	September	1998
Equatorial Guinea	9	October	1996			
Estonia	20	November	1996	13	August	1999
Ethiopia	25	September	1996			
Fiji	24	September	1996	10	October	1996
Finland*	24	September	1996	15	January	1999
France*	24	September	1996	6	April	1998
Gabon	7	October	1996	20	September	2000
Georgia	24	September	1996			
Germany*	24	September	1996	20	August	1998
Ghana	3	October	1996			
Greece	24	September	1996	21	April	1999
Grenada	10	October	1996	19	August	1998
Guinea	3	October	1996			
Guinea-Bissau	11	April	1997			
Guyana	7	September	2000	7	March	2001
Haiti	24	September	1996			
Holy See	24	September	1996	18	July	2001
Honduras	25	September	1996			
Hungary*	25	September	1996	13	July	1999
Iceland	24	September	1996	26	June	2000
Indonesia*	24	September	1996			
Iran*	24	September	1996			
Ireland	24	September	1996	15	July	1999
Israel*	25	September	1996			

State	Date of Signature			Date of Deposit of Instrument		
Italy*	24	September	1996	1	February	1999
Jamaica	11	November	1996			
Japan*	24	September	1996	8	July	1997
Jordan	26	September	1996	25	August	1998
Kazakhstan	30	September	1996			
Kenya	14	November	1996	30	November	2000
Kiribati, Republic of	7	September	2000	7	September	2000
Korea, Republic of *	24	September	1996	24	September	1999
Kuwait	24	September	1996			
Kyrgyzstan	8	October	1996			
Lao People's Democratic Republic	30	July	1997	5	October	2000
Latvia	24	September	1996			
Lesotho	30	September	1996	14	September	1999
Liberia	1	October	1996			
Liechtenstein	27	September	1996			
Lithuania	7	October	1996	7	February	2000
Luxembourg	24	September	1996	26	May	1999
Macedonia, The former Yugoslav Republic of	29	October	1998	14	March	2000
Madagascar	9	October	1996			
Malawi	9	October	1996			
Malaysia	23	July	1998			
Maldives	1	October	1997	7	September	2000
Mali	18	February	1997	4	August	1999
Malta	24	September	1996	23	July	2001
Marshall Islands	24	September	1996			
Mauritania	24	September	1996			
Mexico*	24	September	1996	5	October	1999
Micronesia, Federal States of	24	September	1996	25	July	1997
Moldova, Republic of	24	September	1997			
Monaco	1	October	1996	18	December	1998
Mongolia	1	October	1996	8	August	1997
Morocco	24	September	1996	27	April	2000
Mozambique	26	September	1996			
Myanmar	25	November	1996			

State	Date of Signature			Date of Deposit of Instrument		
Namibia	24	September	1996	29	June	2001
Nauru	8	September	2000			
Nepal	8	October	1996			
Netherlands*	24	September	1996	23	March	1999
New Zealand	27	September	1996	19	March	1999
Nicaragua	24	September	1996	5	December	2000
Niger	3	October	1996			
Nigeria	8	September	2000	27	September	2001
Norway*	24	September	1996	15	July	1999
Oman	23	September	1999			
Panama	24	September	1996	23	March	1999
Papua New Guinea	25	September	1996			
Paraguay	25	September	1996	4	October	2001
Peru*	25	September	1996	12	November	1997
Philippines	24	September	1996	23	February	2001
Poland*	24	September	1996	25	May	1999
Portugal	24	September	1996	26	June	2000
Qatar	24	September	1996	3	March	1997
Romania*	24	September	1996	5	October	1999
Russian Federation*	24	September	1996	30	June	2000
Saint Lucia	4	October	1996	5	April	2001
Samoa	9	October	1996			
San Marino	7	October	1996			
Sao Tome and Principe	26	September	1996			
Senegal	26	September	1996	9	June	1999
Seychelles	24	September	1996			
Sierra Leone	8	September	2000	17	September	2001
Singapore	14	January	1999			
Slovak Republic*	30	September	1996	3	March	1998
Slovenia	24	September	1996	31	August	1999
Solomon Islands	3	October	1996			
South Africa*	24	September	1996	30	March	1999
Spain*	24	September	1996	31	July	1998
Sri Lanka	24	October	1996			
Suriname	14	January	1997			

State	Date of Signature	Date of Deposit of Instrument
Swaziland	24 September 1996	
Sweden*	24 September 1996	2 December 1998
Switzerland*	24 September 1996	1 October 1999
Tajikistan	7 October 1996	10 June 1998
Thailand	12 November 1996	
Togo	2 October 1996	
Tunisia	16 October 1996	
Turkey*	24 September 1996	16 February 2000
Turkmenistan	24 September 1996	20 February 1998
Uganda	7 November 1996	14 March 2001
Ukraine*	27 September 1996	23 February 2001
United Arab Emirates	25 September 1996	18 September 2000
United Kingdom*	24 September 1996	6 April 1998
United States of America*	24 September 1996	
Uruguay	24 September 1996	21 September 2001
Uzbekistan	3 October 1996	29 May 1997
Vanuatu	24 September 1996	
Venezuela	3 October 1996	
Vietnam*	24 September 1996	
Yemen	30 September 1996	
Yugoslavia	8 June 2001	
Zambia	3 December 1996	
Zimbabwe	13 October 1999	

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

Since the last update in *Nuclear Law Bulletin* No. 67 (June 2001), two States, namely Austria and Luxembourg, have become Contracting Parties to this Convention. Therefore, as of 16 October 2001, there are 27 Parties to this Convention.

BIBLIOGRAPHY AND NEWS BRIEFS

BIBLIOGRAPHY

Spain

Derecho nuclear, by Juan Manuel Ayllón Díaz-Gonzáles, Editorial Comares, Granada, 1999, 803 pages

This new book devoted to nuclear law is the publication of a thesis defended at the University of Malaga, Spain. This study of the law regulating the peaceful uses of nuclear energy, while providing an in-depth analysis of the current Spanish legislation in this field, also examines all of the subjects making up this body of law and its international sources.

After an initial description of the nature and specificity of nuclear law and the historical stages of its development, as well as the legal framework surrounding nuclear activities in general (Chapters I and II), the book examines in detail the different aspects which enter into any examination of nuclear law: the division of national responsibilities in this field, including those delegated to Euratom (Chapter III); the powers of the police over nuclear activities in Spain (Chapter IV); nuclear safety and radiation protection, including its institutional and regulatory aspects in Spain (Chapters V and VI); and the compensation of nuclear damage (Chapter VII).

Considering the very detailed nature of this study, it is noteworthy that the author did not examine in depth certain recent international conventions such as the 1994 Nuclear Safety Convention, the 1997 Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management or even the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage. There is very little emphasis also on certain important subjects such as the physical protection of nuclear materials. This book, however, certainly provides a useful insight into the legal regime which applies in Spain to the uses of nuclear energy.

NEWS BRIEFS

OECD Nuclear Energy Agency

2001 Session of the International School of Nuclear Law

The International School of Nuclear Law (ISNL) held its first session from Monday 27 August to Friday 7 September 2001. The ISNL is a programme under the joint management of the University of Montpellier I and the OECD Nuclear Energy Agency. The International Nuclear Law Association, the European Commission and the International Atomic Energy Agency also provided sponsorship or support to the organisation of this first session.

The teaching programme of the School included 10 days of classes totalling approximately 40 hours of lectures and 15 hours of practical exercises and involving 23 lecturers. Fifty law students or young professionals carrying out activities in the nuclear field, from 33 countries, participated in this session. The principal themes of study covered all the essential aspects of the law governing the uses of nuclear energy: radiation protection, nuclear safety, radioactive waste management, physical protection, non proliferation, nuclear third party liability, etc. With very few exceptions, classes took place in English.

The 2002 Session of the School will take place in Montpellier from Monday 26 August to Saturday 7 September 2002.

Further information on the organisation of the ISNL and its programme may be obtained from the NEA Secretariat, Legal Affairs, 12 bvd des Iles, 92130 Issy-les-Moulineaux, France, or on the NEA website at the following address: http://www.nea.fr/html/law.

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NORWAY

Act on Radiation Protection and Use of Radiation*

adopted on 12 May 2000

Chapter I

PURPOSE, SCOPE AND DEFINITIONS

Section 1

Purpose of the Act

The purpose of this Act is to prevent the harmful effects of radiation on human health and to contribute to the protection of the environment.

Section 2

Scope of the Act

The Act applies to any production, import, export, transport, transfer, possession, installation, use, handling and waste management of radiation sources.

The Act also applies to human activity which causes increased levels of naturally-occurring ionising radiation in the environment.

The Act also applies to planning and emergency preparedness against incidents and accidents.

* Unofficial translation kindly provided by the Norwegian authorities.

Section 3

Definitions

In this Act –

a) radiation – means ionising and non-ionising radiation.

b) ionising radiation – means radiation from radioactive substances, x-ray radiation and particle radiation.

c) non-ionising radiation – means optical radiation, radio frequency radiation, electrical and magnetic fields or other radiation with analogous biological effects and ultrasound.

d) radiation sources – means radioactive substances, goods or equipment containing such substances, as well as installations, apparatus or equipment which may emit radiation.

e) medical use of radiation – means the application of radiation to persons for the purpose of medical examination and treatment, in research or for examinations in a legal context.

f) waste management – means any disposal of radiation sources after their use has been completed, including storage, release, deposit, recycling or treatment as ordinary waste.

Section 4

Territorial scope of the Act

The King may provide by regulations that this Act shall apply in Svalbard, Jan Mayen and Norwegian dependencies, and may lay down special rules as regards local conditions.

The Act applies to devices and any installation deployed on the Norwegian part of the continental shelf and on Norwegian ships and aircraft in areas that are not subject to the sovereignty of any other State.

Chapter II

GENERAL PROVISIONS

Section 5

The justification requirement and basic principles governing radiation protection and use of radiation

All production, import, export, transport, transfer, possession, installation, use, handling and waste management of radiation sources shall be justifiable to ensure that risks are not caused to those performing any such activity, to other persons or to the environment. Furthermore, human activity causing increased levels of naturally ionising radiation in the environment shall be justifiable. In the assessment of the justification, importance shall be given *inter alia* to whether the benefits of the activity outweigh the risks associated with the radiation, and to whether the activity is carried out in such a way as to avoid acute injury to health and to minimise the risk of future injury as far as is reasonably possible. Radiation doses shall not exceed established limits.

Apparatus or devices that may emit radiation shall be designed and shall function properly.

Section 6

Approval and notification

The Ministry** may, in regulations, lay down requirements regarding approval or notification of any production, import, export, transport, transfer, possession, installation, use, handling and waste management of radiation sources. Approval or notification requirements may also apply to human activity causing increased levels of naturally-occurring ionising radiation in the environment. The regulations may prescribe requirements as to the content of applications and notifications.

Where an approval or notification requirement has been prescribed, an undertaking subject to such a requirement shall not commence activities until approval is given or notification carried out. An undertaking may not be expanded or materially changed in relation to the existing approval or notification.

** In this Act, the term “Ministry” refers to the Ministry for Health and Social Affairs.

Section 7

Instruction and training

In undertakings under the ambit of this Act, the employees and other associated persons shall have such instruction or training as is necessary to ensure that they have sufficient qualifications or knowledge in radiation protection and on the safe use of radiation.

Visitors and others with access to the undertaking shall, where necessary in the interest of radiation protection, be provided with information about the precautions that must be taken.

The Ministry may lay down supplementary regulations concerning training, qualification requirements and instructions for persons who use or come into contact with radiation.

Section 8

Protective measures

Undertakings subject to this Act shall take the necessary measures to protect the employees, other associated persons and the environment against radiation. Persons who, due to their young age, pregnancy or for other reasons, are particularly sensitive to radiation, shall either be assigned tasks that do not involve exposure to radiation, or be protected by other appropriate measures.

The Ministry may lay down supplementary regulations concerning factors as mentioned in the first Paragraph, including a minimum age for workers exposed to radiation, as well as medical examination of persons who are exposed to radiation.

Section 9

Special provisions on radioactive waste and radiation-emitting apparatus that is discarded

In order to ensure the safe management of radioactive waste with respect to radiation protection, the Ministry may lay down supplementary regulations on storage, deposit, release into the environment, recycling and treatment as ordinary waste. The regulations may prescribe a duty for suppliers of radioactive substances to establish recycling schemes for radioactive waste, and likewise a duty for undertakings to establish and utilise such recycling schemes. The provisions of this Paragraph also apply to waste, equipment or packaging that contains or is contaminated by radioactive substances.

Where apparatus or equipment which may emit radiation is discarded or finally taken out of service, the owner or the responsible party shall prevent subsequent harmful use of such apparatus or equipment by ensuring that it can no longer emit radiation.

Section 10

Naturally-occurring ionising radiation

The Ministry may lay down regulations establishing limitations, including dose limits, for work or periods spent in places where the radiation levels from naturally-occurring ionising radiation are increased due to human activity.

Section 11

Internal control

The King may in further regulations lay down provisions concerning internal control and internal control systems to ensure compliance with requirements laid down in or pursuant to this Act.

Section 12

Regulations on radiation protection and use of radiation etc.

In order to promote the purpose of this Act and to ensure proper radiation protection and use of radiation, the Ministry may lay down regulations to supplement the provisions of this Act. Such regulations may *inter alia* lay down requirements with regard to:

a) the organisation of radiation protection, including the designation of a responsible radiation protection officer, and requirements as regards the registration of information necessary for the purpose of internal control or supervision.

b) shielding measures in the form of design and outfit of premises and workplaces, work procedures and use of personally fitted protective equipment. Requirements may also be laid down for the design and function of radiation-emitting equipment.

c) marking of radiation sources and information about the application, handling and storage of radiation sources. Requirements may also be laid down as to warning signs in premises or areas where radiation sources or radioactive waste are present which may entail a health risk. Requirements may also be laid down to inform involved persons and the general public about the use of radiation and radiation protection.

d) measurement of radiation levels, including personal dosimetry.

e) dose limits for relevant types of radiation.

f) transport of radiation sources, including radioactive waste and equipment containing such sources.

g) follow up of protective measures in connection with the carrying out of repairs, maintenance or alteration of a radiation source or installation.

Chapter III

SPECIAL PROVISIONS FOR MEDICAL USE OF RADIATION

Section 13

Justification and optimisation

The medical use of radiation shall be performed in accordance with good medical examination and treatment practices, including provisions for radiation protection.

For the medical use of radiation, the professionally responsible person shall assess whether the use of radiation is justified. In the assessment, account shall be taken *inter alia* of whether the benefits outweigh the potentially harmful effect due to the use of radiation. Account shall be taken of the benefit to the individual, the benefit to society and whether alternative techniques can be applied. The use of radiation shall be avoided in cases where the same result can be achieved by other means without material inconvenience, for example by using other methods or by obtaining results from previous examinations.

When radiation is applied, the person professionally responsible for the examination or treatment shall ensure that the applied radiation doses are as low as may reasonably be achieved, viewed in light of the purpose of the irradiation, available equipment and resources, and similar circumstances.

The undertaking shall at regular intervals verify that the emitted radiation dose matches the dose calculated. This does not apply to examination or treatment involving radioactive substances being administered to the patient.

The ministry may lay down supplementary regulations with requirements for the medical use of radiation.

Section 14

Duty to inform about radiation protection precautions

Where, in connection with the medical use of radiation, radiation protection measures are taken that require a particular conduct on the part of the person being examined or treated, the professionally responsible or authorised person shall inform the person in question how to act in order to fully benefit from such measures. This also applies to attendants who support the person at the treatment or examination. Information as mentioned may be omitted where there is no reason to expect the person to be able to make use of it.

Where radioactive substances are administered to patients, the professionally responsible person shall inform about precautions that should be taken to protect other persons against radiation.

The Ministry may make supplementary regulations concerning the duty to provide information about radiation protection precautions.

Chapter IV

PLANNING OF INCIDENT AND ACCIDENT MANAGEMENT.
EMERGENCY PREPAREDNESS

Section 15

Duty to plan

The Ministry may, by regulations or individual decisions, impose on undertakings subject to this Act a duty to plan for the handling of incidents and accidents, and requirements with regard to exercises. The decision may include a duty to notify rescue service agencies and the supervisory authority about special risks of which the rescue service and the supervisory authority should be aware in order to handle incidents or accidents.

Undertakings may be required to notify physical and legal persons in their immediate vicinity of special risks that may arise. Physical and legal persons who do not themselves conduct an activity subject to this Act, but who may be affected by past incidents or accidents, may have a separate duty imposed on them to plan how to limit harmful effects.

Section 16

Emergency preparedness in respect of nuclear accidents

The King organises emergency preparedness in respect of nuclear accidents.

In the acute phase of a nuclear accident the King may, notwithstanding the allocation of authority under other Acts, order state and municipal agencies to implement evacuation, area access restriction, as well as measures to safeguard foodstuffs, including drinking water and protection of animals. The King may also order private and public undertakings to perform analyses and gather information for the assessment of the situation.

The King may also, notwithstanding the allocation of authority under other Acts, delegate his authority under the second Paragraph to a designated state agency for nuclear emergency preparedness.

Agencies assigned functions in the field of nuclear emergency preparedness are required to act according to a co-ordinated body of plans.

The King may order persons with central preparedness functions to be available in the event that an emergency situation arises.

Section 17

Special exemptions in rescue and civil emergency situations and with regard to national defence

The King may in regulations establish exemptions from dose limits and other requirements laid down pursuant to this Act in situations where the implementation of a rescue or civil emergency operation makes this necessary. Personnel shall not be ordered to perform tasks at the risk of acute radiation injury.

The King may also make exemptions from provisions laid down in or pursuant to this Act in situations where this is necessary in the interest of national defence preparedness.

Chapter V

ADMINISTRATIVE PROVISIONS, PENALTIES AND COMMENCEMENT

Section 18

Supervision and decisions. The supervisory authority's right of access, information and to make measurements

The Norwegian Radiation Protection Authority supervises compliance with provisions laid down in or pursuant to this Act, and may for this purpose make such individual decisions as are necessary.

The King may for delimited areas provide in regulations that other state supervisory agencies or municipalities shall carry out supervision and make necessary individual decisions in pursuance of this Act. Public agencies that are assigned authority under the provision of the first sentence may apply the enforcement provisions in the Act under the conditions laid down in the particular provision.

The supervisory authority shall be given free access to perform supervision, and shall be provided with information necessary for the performance of its functions under the provisions of this Act.

The supervisory authority shall be given access to undertake measurements and investigations. The undertaking shall hand over samples for supervisory purposes without charge. If it is demonstrated that provisions laid down in or pursuant to this Act have been infringed, the undertaking may be charged with the cost of supervision due to such infringement.

The Ministry may, by regulations, lay down charges for the payment of particular supervisory tasks.

Section 19

Rectification and cessation of an activity

The Norwegian Radiation Protection Authority may demand rectification of an activity that conflicts with provisions laid down in or pursuant to this Act.

If a material risk to health exists, the Norwegian Radiation Protection Authority may order cessation of the activity in question, confiscate substances or equipment in whole or in part, or ensure discontinuation of further use by other means. The Norwegian Radiation Protection Authority may demand the closure of an undertaking that does not possess the required licence or has not submitted the required notification.

The police are, upon request, obliged to assist the process of cessation or confiscation.

Section 20

Prohibition of import and sale

The Norwegian Radiation Protection Authority may refuse the import or sale of any product or substance and any item that may involve a risk to health or environment due to radiation, provided that this is not in conflict with international agreements to which Norway is a Party.

Section 21

Coercive fine

The supervisory authority may impose a coercive fine in the form of a once-off fine or a daily fine on an undertaking that ignores a deadline for complying with an order. The coercive fine shall be fixed either at the time the order is made or when a new deadline is set for compliance.

The King may waive an imposed coercive fine when appropriate.

The Ministry may lay down supplementary regulations concerning the imposition and calculation of coercive fines.

Section 22

Appeal

The Ministry of Health and Social Affairs is the appeals body for individual decisions made by the Norwegian Radiation Protection Authority under provisions laid down in or pursuant to this Act.

Appeals concerning individual decisions made under provisions laid down in or pursuant to this Act by a State supervisory agency other than the Norwegian Radiation Protection Authority are decided by the administrative agency that is the immediate superior of the supervisory agency in question.

The county governor decides appeals concerning individual decisions made by the municipality under provisions laid down in or pursuant to this Act. Before an appeal is decided under this Paragraph, the county governor shall obtain a statement from the chief county medical officer.

Section 23

Penalties

Anyone who wilfully or through negligence violates or contributes to the violation of provisions or orders made under the provisions of or pursuant to this Act, shall be punished by fines or imprisonment not exceeding three months.

If the violation has or could have caused grave danger to health or the environment, imprisonment not exceeding two years may be imposed.

If the violation has merely resulted in insignificant harm or inconvenience, public prosecution will take place only at the request of the supervisory authority.

Section 24

Commencement etc.

This Act comes into force when the King decides.

Act No. 1 of 18 June 1938 relating to the Use of X-rays and Radium etc., will be repealed on the same date.

Regulations and other provisions and decisions made under the provisions of Act No. 1 of 18 June 1938 relating to the Use of X-rays and Radium etc., will apply also after the present Act has come into force insofar as they do not conflict with provisions laid down in or pursuant to this Act.

Section 25

Amendments to other Acts

Act No. 28 of 12 May 1972 on Nuclear Energy Activities, Section 6, new second Paragraph shall read:

The King may, by regulations or individual decision, lay down further rules concerning internal control and internal control systems to ensure compliance with requirements laid down in or pursuant to this Act.

POLAND

Atomic Energy Act*

adopted on 29 November 2000

Chapter 1

GENERAL PROVISIONS

Article 1

1. The Act defines the following:

   1) activities related to peaceful use of atomic energy, involving real and potential exposures to ionising radiation emitted by artificial radioactive sources, nuclear materials, devices generating ionising radiation, radioactive waste and spent nuclear fuel;

   2) duties of the head of the organisational entity conducting these activities;

   3) authorities competent in the area of nuclear safety and radiological protection;

   4) principles of third party liability for nuclear damage.

2. The Act also establishes financial penalties for the violation of nuclear safety and radiological protection regulations, and the rules for imposing such penalties.

3. The Act shall also apply to practices conducted in conditions of exposure to natural ionising radiation enhanced by human activity.

4. Moreover, the Act defines principles of radioactive contamination monitoring and establishes rules governing activities undertaken in the event of a radiological emergency as well as in chronic exposure conditions in the aftermath of a radiological emergency or a past practice.

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* Official Journal of 2001, No. 3, Item 18 and No. 100, Item 105.

This translation was kindly provided by the Polish authorities.

Article 2

Activities and practices referred to in Article 1(1)(1) and Article 1(3) shall be permitted after undertaking the measures defined in appropriate regulations, aimed at ensuring the safety and protection of human life and health, as well as protection of property and the environment.

Article 3

For the purposes of this Act, the following terms have the meaning hereby assigned to them:

1) nuclear safety – conditions reached through all of the organisational and technical measures undertaken to prevent radiological emergencies related to practices involving nuclear materials, and to mitigate their consequences;

2) dose limit – radiation dose expressed as effective dose or equivalent dose, established for specified groups of persons, and involving controlled occupational exposure, which shall not be exceeded, except under circumstances provided for in this Act;

3) absorbed dose – the energy absorbed per unit mass of matter, averaged over an organ or a tissue of an exposed person;

4) equivalent dose – absorbed dose in an organ or a tissue, derived by taking into account the type and energy of the ionising radiation;

5) effective dose – sum of equivalent doses from external and internal exposures, derived using appropriate tissue or organ weighting factors, and representing a whole body exposure;

6) intervention measures – activities performed to prevent or to mitigate human exposure resulting from a radiological emergency, as defined in Article 90;

7) organisational entity – each entity engaged in activities involving exposure;

8) decommissioning of a nuclear facility – bringing a nuclear facility or device to a status which allows the conduct of any activity with no limitations from the nuclear safety and radiological protection viewpoint;

9) decommissioning of a radioactive waste or spent nuclear fuel repository – bringing the site of a radioactive waste or spent nuclear fuel repository to a status which allows the conduct of any activity with no limitations from the nuclear safety and radiological protection viewpoint;

10) dose constraint – a restriction on the prospective individual doses which may result from a defined source, for use at the planning stage of radiation protection in connection with optimisation;

11) nuclear material – material containing fissionable isotopes (nuclides), in particular the isotopes of uranium, plutonium or thorium, in quantities which may not be disregarded from the viewpoint of nuclear material accountancy, including nuclear fuel;

12) exposure – a process of exposing the human body to ionising radiation;

13) nuclear facility – a facility or an installation designed for manufacturing, use, processing, storage and disposal of nuclear material in quantities allowing a self-sustained nuclear fission chain reaction;

14) physical protection – all organisational and technical measures aimed at ensuring effective protection of nuclear facilities and nuclear materials against theft, or acts of terrorism, diversion, or sabotage;

15) radiological protection – prevention of human exposure and environmental contamination, and if such prevention is not possible – limitation of their consequences to the as low as reasonably achievable level, taking into account economic, social and health factors;

16) radioactive waste – solid, liquid or gaseous waste containing radioactive substances or contaminated by such materials, assigned to the waste categories specified in Article 47;

17) radioactive waste management – all practices involving processing, handling, storage and disposal of radioactive waste, including facility decommissioning;

18) spent nuclear fuel management – all practices involving reprocessing, handling, storage or disposal of spent nuclear fuel, including facility decommissioning;

19) intervention level – numerical value of the effective or equivalent dose, or the level of radioactive isotope content in foodstuffs, drinking water and feeding stuffs, which necessitates the consideration of specific remedial action if there is a possibility of exceeding this value;

20) quality assurance program – system of actions to guarantee compliance with specified requirements of radiological protection and nuclear safety;

21) ionising radiation – radiation composed of directly or indirectly ionising particles, or of both those types of particles, or electromagnetic waves of a wavelength of 100 nm (nano-meters), or less;

22) natural radiation – ionising radiation emitted from natural sources of terrestrial and cosmic origin;

23) spent nuclear fuel storage facility – nuclear facility intended for the safe, secure, stable and protected storage of spent nuclear fuel, after its unloading from the nuclear reactor or from the fuel pool at the reactor and before its handing over for reprocessing or for disposal as radioactive waste;

24) storage – holding of radioactive waste or spent fuel with the intention of its retrieval for processing, reprocessing or disposal;

25) spent nuclear fuel reprocessing – process or operation aimed at partial or total extraction of radioactive isotopes from spent nuclear fuel for their further use;

26) radioactive waste processing – process or operation to minimise the volume of waste, waste segregation according to waste category and preparation for transport;

27) radioactive waste or spent nuclear fuel disposal – emplacement of radioactive waste or spent nuclear fuel in a facility designed for this purpose with no intention of retrieval;

28) radioactive substance – material containing one or more radioactive isotopes, with activity or radioactive concentration that can not be disregarded from the radiological protection viewpoint;

29) spent nuclear fuel – nuclear fuel that has been irradiated in and permanently removed from a nuclear reactor core;

30) potential exposure – exposure which is possible and for which the probability and magnitude may be estimated beforehand;

31) closure of a radioactive waste or spent nuclear fuel repository – discontinuation of further shipments of radioactive waste or spent nuclear fuel to the repository, decided upon by an appropriate authority, and accomplishment of all works necessary to ensure the facility's safety and security;

32) radiological emergency – hazardous situation which requires urgent remedial actions for protection of workers or of the general public;

33) radioactive source – a radioactive substance made ready for use of its ionising radiation;

34) ionising radiation source – a radioactive source, device containing such source, device generating ionising radiation or an installation emitting radioactive substances.

Chapter 2

LICENCES ADDRESSING NUCLEAR SAFETY AND RADIOLOGICAL PROTECTION ISSUES

Article 4

1. Any practice involving exposures and concerning:

   1) manufacturing, processing, storage, disposal, transport or use of and trade in nuclear materials, radioactive sources, radioactive waste and spent nuclear fuel;

   2) construction, commissioning, experimental or steady state operation and decommissioning of nuclear facilities;

   3) construction, operation, closure and decommissioning of radioactive waste repositories and spent nuclear fuel repositories, and construction and operation of storage facilities for spent nuclear fuel;

   4) manufacture, installation, use and maintenance of devices containing radioactive sources and trade in such devices;

   5) manufacture, purchase, commissioning and use of devices generating ionising radiation;

6) commissioning of laboratories and workrooms using ionising radiation sources, including X-ray laboratories;

7) deliberate addition of radioactive substances in the processes of manufacturing consumer and medicinal products and trade in such goods;

8) deliberate administration of radioactive substances to humans and animals for medical or veterinary diagnostics, therapeutic purposes or for research;

9) shall require a licence or a notification from the viewpoint of nuclear safety and radiological protection, subject to Article 6(1).

2. Practices involving the addition of radioactive substances to foodstuffs, toys, personal jewellery or cosmetic products, as well as the import of such products into, and export from the territory controlled by Polish customs, shall be prohibited.

Article 5

1. Applications to issue a licence for practices referred to in Article 4(1) or the notification of such practices shall be submitted by the head of the organisational entity.

2. Licences shall be issued by or the notification shall be made to the President of the National Atomic Energy Agency, hereinafter referred to as "the Agency's President", subject to Paragraph 3.

3. Licence for manufacturing, acquiring, commissioning and operating for medical purposes X-ray sets with radiation energy up to 300 keV (kilo electron-volt) shall be issued by the sanitary inspector of the *Voivod* (regional governor), or in the case of organisational entities subordinated to or supervised or established by the Minister for National Defence – by the military sanitary inspector.

4. The bodies referred to in Paragraphs 2 and 3 shall establish and maintain a register of those organisational entities whose practices require at least a notification.

5. Decisions to withdraw a licence shall establish the method for ensuring safety of nuclear materials, ionising radiation sources, radioactive waste or spent nuclear fuel in the possession of the organisational entity.

6. In all matters not regulated by this Act and concerning the licences, the provisions of the Act of Parliament of 19 November 1999 on Business Enterprises (O.J. of 1999, No. 101, Item 1178, and O.J. of 2000, No. 86, Item 958 and No. 114, Item 1193) shall apply.

7. Use for economic purposes of industrial waste containing natural radioactive isotopes shall be subject to the rules defined in the regulations on environmental protection.

Article 6

The Council of Ministers shall establish by regulations:

1) cases where practices referred to in Article 4(1) shall be exempted from obtaining a licence or from issuing a notification, and cases where such practices may be performed on the basis of a notification, by defining appropriate exemption criteria in the form of limiting values for radioactive isotopes total activity and radioactivity concentration;

2) documents required together with a licence application submitted for practices referred to in Article 4(1) or with the notification of such practices**,** which are necessary to confirm that the applicant fulfils the conditions satisfying nuclear safety and radiological protection requirements, taking into account specific characteristics of various practices as well as the actions of the authority issuing the licence or receiving the notification in the event that the content of such documents is not sufficient to prove that these conditions have been fulfilled;

3) requirements concerning natural radioactive isotope content in raw materials and in construction materials used in the buildings intended for humans and livestock and also in industrial waste used in the construction industry, as well as the control over the content of such isotopes.

Chapter 3

NUCLEAR SAFETY RADIOLOGICAL PROTECTION
AND HEALTH PROTECTION OF WORKERS

Article 7

1. Responsibility for compliance with nuclear safety and radiological protection requirements shall rest with the head of the organisational entity pursuing the activities involving exposure.

2. An organisational entity conducting practices for which a licence is required shall establish and implement a quality assurance program.

3. In an organisational entity conducting practices for which a licence is required, nuclear safety and radiological protection conditions shall be supervised by an authorised radiological protection inspector.

4. An application to be authorised to become a radiological protection inspector may be filed by the interested party or by the head of the appropriate organisational entity.

5. An authorisation to become a radiological protection inspector shall be granted to an individual who:

   1) is fully qualified from the legal point of view;

2) is at least a secondary school graduate;

3) passed an exam referred to in field of training specified in the regulations issued on the basis of Article 12(2);

4) possesses a medical certificate declaring lack of contraindications for work in occupational exposure conditions.

6. Authorisation to be a radiological protection inspector shall be issued by the Agency's President, subject to Paragraph 7.

7. The Minister competent in health matters shall establish by regulation the competent body for granting appropriate authorisations for radiological protection inspectors in X-ray laboratories using for medical purposes X-ray sets with radiation energy up to 300 keV.

8. Costs associated with obtaining such an authorisation shall rest with the applicant.

Article 8

1. Before the start of practices involving exposure, the head of the organisational entity shall prepare a justification for the practice, which should demonstrate that the scientific, economic, social and other benefits expected from this practice will prevail over possible damage to human health and to the state of the environment caused by this practice.

2. If some new and important circumstances concerning the effects of a given practice arise, the head of the organisational entity shall verify the justification, taking into account the same factors as those required for the justification itself.

Article 9

1. The head of the organisational entity shall ensure that the activities are conducted according to the optimisation principle, which requires that – after reasonably taking into account economic and social factors, the number of exposed persons and the radiation doses received by those persons shall be as low as reasonably achievable, subject to Article 15(3).

2. If dose constraints are established in the licence, then any possible excess of the dose shall be reported by the head of the organisational entity to the licensing authority.

Article 10

1. A worker may be employed in exposure conditions after an appropriately qualified medical practitioner, hereinafter referred to as an "authorised medical practitioner", issues a certificate stating that there are no contraindications for such employment.

2. Qualifications of authorised medical practitioners, procedures for the issue and conservation of such certificates and the type and frequency of medical examinations for workers employed in exposure conditions, shall be established by the provisions of labour law, unless otherwise provided in this Act.

Article 11

1. Work involving nuclear material, ionising radiation sources, radioactive waste or spent nuclear fuel, shall be performed by an employee possessing the knowledge of nuclear safety and radiological protection regulations appropriate for this position, as well as appropriate skills and qualifications.

2. The head of the organisational entity shall be responsible for conducting preliminary and periodic training for workers, apprentices and students on nuclear safety and radiological protection issues, according to a training programme developed by him. This training shall also be given to workers participating in the transport of nuclear materials, radioactive sources, radioactive waste and spent nuclear fuel.

3. Training programmes, which include information on health protection issues, developed by the head of the organisational entity operating on the basis of a licence, shall be approved by the licensing authority.

Article 12

1. In an organisational entity, a position which is important for ensuring nuclear safety and radiological protection may only be occupied by an individual possessing an appropriate authorisation issued by the Agency's President.

2. The Council of Ministers shall establish by regulation the types of positions referred to in Paragraph 1, detailed conditions and procedures for the issuance by the Agency's President of authorisations for radiological protection inspectors and people occupying positions referred to in Paragraph 1, required scope of training and conditions to be fulfilled by the entities conducting the training, taking into account the training curriculum and organisational forms, the standard form of authorisation certificates and the overall scope of authority and duties of a radiological protection inspector.

3. The Minister competent for health issues shall establish by regulation detailed conditions and procedures governing the issuance of authorisations to radiological protection inspectors employed in X-ray laboratories using for medical purposes X-ray sets with radiation energy up to 300 keV, in particular taking into account standard forms for certification of appropriate qualifications, the methods of conducting examinations and of establishing an examinations commission, as well as detailed training curricula.

Article 13

1. Dose limits shall include the total sum of the doses from external and internal exposures.

2. Dose limits shall not include the exposures to natural radiation provided that such exposures have not been enhanced by human activity; in particular they shall not include exposures resulting from radon in homes, natural radioisotopes incorporated in human bodies, cosmic radiation on ground level and above-ground exposures to radioisotopes present in the undisturbed earth's crust.

Article 14

1. The sum of all ionising radiation doses to the workers and the general public, incurred jointly from all kinds of practices, shall not exceed, subject to Articles 19(1), 20(2) and 20(3), the dose limits established in the regulations based on Article 25(1).

2. Dose limits shall not apply to individuals exposed to ionising radiation for medical purposes.

Article 15

1. Ionising radiation applications for medical purposes include the exposures of:

   1) patients who undergo medical examinations and therapy, including preliminary and periodic medical examinations,

   2) individuals who undergo radiological screening examinations,

   3) healthy people or patients participating in medical experiments,

   4) people examined for medico-legal purposes,

   5) individuals who knowingly and willingly help, support and comfort patients undergoing medical procedures.

2. Referral to an examination or to treatment involving the application of ionising radiation should be based on the referring medical practitioner's (prescriber's) conviction that this examination or treatment shall provide information contributing to a proper diagnosis or to the exclusion of an illness, to the prognosis of the course of disease, to the necessary evaluation of treatment effectiveness, and that the net benefit thus obtained shall predominate over possible health detriments resulting from ionising radiation exposure.

3. The Minister competent for health issues shall establish by regulation the conditions for safe ionising radiation applications referred to in Paragraph 1 and also the procedures for internal control of compliance with those conditions, in particular taking into account the optimisation principle, dose constraints for the persons referred to in Paragraph 1, Subparagraph 5, special

rules applying to medical exposure to ionising radiation of children, pregnant women and breast-feeding women undergoing examinations and medical treatments and also accident prevention, and the requirements for quality assurance and control system in X-ray diagnostic procedures, nuclear medicine and radiotherapy.

Article 16

1. In the case of accidental exposure, the assessment shall include the ionising radiation dose received by an exposed individual. Such exposure shall not concern the situation referred to in Article 20(1).

2. Assessment of exposure referred to in Paragraph 1 shall be performed by the head of the organisational entity on whose site the exposure has occurred, or by the Agency's President if the identification of such organisational entity is not possible.

Article 17

1. To match the methods of exposure assessment to its expected level for workers employed in organisational entities, two categories of workers shall be established, depending on the magnitude of exposure:

   1) category A, for workers who may be exposed to an effective dose exceeding 6 mSv (milli-sievert) in one year or to an equivalent dose exceeding one-third of the dose limits for eye lens, skin and extremities, established in the regulations based on Article 25(1);

   2) category B, for workers who may be exposed to an effective dose exceeding 1 mSv in one year or to an equivalent dose exceeding one-twentieth of the dose limits for eye lens, skin and extremities, established in the regulations based on Article 25(1), and who are not included in category A.

2. Occupational exposure assessment shall be based on control measurements of individual doses or on dosimetric measurements in the workplace.

3. Exposure assessments for category A workers shall be based on systematic individual dose measurements and if such workers may be exposed to radiation from internal contamination having an impact on the level of the effective dose for this category of worker, such workers shall be also subject to internal contamination measurements.

4. Exposure assessment for category B workers shall be based on dosimetric measurements in the workplace, performed in a manner which allows verification that they should belong in this category. Licence conditions may include the requirement to perform exposure assessment for category B workers employed at tasks covered by this licence, based on individual dose measurements.

5. If individual dose measurement is impossible or insufficient, the assessment of the individual dose received by category A worker may be made on the basis of individual dose measurement

results for other exposed workers belonging to this category, or on the basis of dosimetric measurements in the workplace.

6. Classification of occupationally exposed workers into category A or B shall be done by the head of the organisational entity, according to the expected level of exposure of these workers.

7. Regarding the ability to perform tasks in the category A worker's group, the following medical classification shall be established: able, able under certain conditions, unable.

8. A worker shall not be employed in a specified position within category A if an authorised medical practitioner issues a certificate stating that this worker is unable to perform such work.

Article 18

1. To adapt the actions and means used for radiological protection of workers to the magnitude and type of a potential exposure, the following classification of workplace sites shall be introduced:

   1) controlled areas, in which there is a possibility of receiving doses established for category A workers or a possibility of radioactive contamination,

   2) supervised areas, in which there is a possibility of receiving doses established for category B workers and which have not been classified as controlled areas.

2. The head of the organisational entity shall be responsible for the fulfilment of requirements established in the regulations for controlled and supervised areas, based on Article 25(2).

Article 19

1. In special cases, excluding radiological emergencies, category A workers may, willingly and with the consent of the Agency's President, receive doses exceeding dose limit values, if this is necessary to perform a specified task.

2. Exposure referred to in Paragraph 1 shall be prohibited for apprentices, students and female pregnant and breast-feeding workers, if the exposure involves a probability of their radioactive contamination.

3. The head of the organisational entity shall justify the necessity of the exposure referred to in Paragraph 1 and shall discuss the situation in advance with interested volunteers or with their representatives, as well as with the authorised medical practitioner and the radiological protection inspector.

4. Proceedings referred to in Paragraphs 1 and 3 shall be documented in a written form.

5. Doses received by the worker, referred to in Paragraph 1, shall be registered separately in the records referred to in Article 30(3). Such exposures shall not result in the worker's withdrawal

from normal tasks nor in his transfer to another position against his will, subject to Article 31(2) and 31(3).

Article 20

1. No individual participating in the elimination of radiological emergency consequences and in intervention actions (exceptional exposure) shall receive during such actions a dose exceeding the annual effective dose limit for occupational exposure, subject to Paragraphs 2 and 3.

2. No individual participating in the intervention action with the aim of preventing:

   1) a serious health detriment,

   2) a major irradiation of a significant number of persons,

   3) a large-scale disaster,

   – shall receive an effective dose in excess of 100 mSv.

3. No individual participating in the rescue of human life shall obtain an effective dose in excess of 500 mSv.

4. Actions referred to in Paragraphs 2 and 3 shall be undertaken exclusively by volunteers, who have been informed in advance of the health risks involved, and who subsequently voluntarily undertook the decision to participate in such intervention actions. Resignation from participation in such an action may not constitute the grounds for terminating an employment contract.

5. During the intervention actions referred to in Paragraphs 1 to 3, all possible means shall be undertaken to ensure proper protection as well as the assessment and recording of the doses received by the individuals participating in these actions. After completion of these actions, the individuals involved shall obtain information on doses received and on the resulting health risks.

6. Persons having received the doses referred to in Paragraphs 1 and 2 shall not be withdrawn from further employment in exposure conditions nor transferred to other positions against their will, subject to Articles 31(2) and 31(3).

7. A person who has received the dose referred to in Paragraph 3 shall be referred for medical examinations by the head of the organisational entity. The provisions of Article 31(2) and 31(3) shall apply accordingly.

Article 21

1. The head of the organisational entity shall keep register of individual doses received by category A workers, based on the results of measurements and assessments referred to in Paragraph 2.

2. Individual dose measurements and assessment of doses resulting from internal contamination shall be performed by bodies possessing appropriate accreditation obtained on the basis of separate regulations.

3. The central register of the doses referred to in Paragraph 1 shall be kept by the Agency's President, based on measurement results referred to in Paragraph 2, obtained from the head of the organisational entity.

Article 22

The head of the organisational entity, prior to employing a worker in radiation exposure conditions, shall obtain from the central dose register the information on the doses previously received by the worker.

Article 23

1. Occupational activities related to the presence of natural radiation leading to an increase of the exposure of workers or the population, which is significant from the radiological protection viewpoint, shall require an assessment of this exposure.

2. Exposure assessment shall be based on dosimetric measurements in the workplace.

3. The activities referred to in Paragraph 1 shall include in particular the work performed in:

   1) mines, caves and other underground sites;

   2) aviation, excluding the tasks performed by the ground personnel.

4. The head of the organisational entity shall establish method for exposure assessment and the means of reducing this exposure, taking into account the regulations based on Article 25(1) and the specific features of the work performed by the exposed person.

Article 24

Exposure of the population as a whole, due to activities involving ionising radiation, shall be regularly assessed by the Agency's President and shall be described in the report referred to in Article 110(13).

Article 25

The Council of Ministers shall establish by regulations:

   1) ionising radiation dose limits and indicators allowing the determination of those doses, used in exposure assessment and the method and frequency of the assessment of exposure of

workers and the general public, taking into account – while defining dose limits for the workers – the doses for apprentices, students and female pregnant and breast-feeding workers;

2) basic requirements for controlled and supervised areas, including the means for their designation, conditions for access and leaving these areas by workers and other persons, and conditions which should be fulfilled for dosimetric measurements in the workplaces within these areas, in particular the scope of the measurement programme and the criteria used to choose the persons who conduct such measurements.

Article 26

The head of the organisational entity employing workers for tasks involving exposure, shall:

1) provide such employees with medical protection, the necessary means of individual protection and dosimetric equipment, corresponding to the exposure conditions;

2) ensure that individual dose measurements or dosimetric measurements are performed in the workplace, according to Article 17(3) and 17(4), and that records of pertinent data are maintained.

Article 27

1. Dosimetric equipment used for exposure control and assessment, which is not covered by obligatory metrological control established in the regulations on measurements, shall possess a calibration certificate.

2. The calibration certificate referred to in Paragraph 1 shall be issued by the measurement laboratory which possesses an accreditation issued on the basis of separate regulations.

Article 28

The Council of Ministers shall establish by regulations the requirements for:

1) individual dose recording, taking into account the exposures referred to in Articles 19(1) and 20(1), the results of dosimetric measurements, the period during which the measurement results should be maintained and organisational means for data collection, transfer and availability,

2) dosimetric equipment, taking into account the technical requirements for its application in normal circumstances during radiological emergencies.

Article 29

1. The head of the organisational entity shall ensure that the workers employed by some other employer (external employer) or self-employed workers engaged in any activity within a controlled area (external workers) shall have protection equivalent to the protection provided to workers employed by this organisational entity.

2. The head of the organisational entity, after completion by an external worker of his task in a controlled area, shall issue him with a document which contains data concerning:

   1) the nature and duration of the task performed,

   2) a dose assessment expressed in terms of quantities used for dose limits, respectively for the whole body, non-homogeneous exposure and internal exposure.

3. The Council of Ministers shall establish by regulation detailed description of the duties of the head of the organisational entity, the external employer and the external worker respectively in the field of radiation protection of external workers occupationally exposed in controlled area, taking into account protection methods applied to the employees of the organisational entity.

Article 30

1. Responsibility for medical surveillance of category A workers shall lie with the head of the organisational entity and with the authorised medical practitioner, who shall have access to the information necessary to issue a certificate concerning the workers' ability to perform specified tasks, including the information on environmental conditions in the workplace.

2. The medical surveillance referred to in Paragraph 1 shall include a preliminary examination prior to employment to ascertain whether the individual may be employed as a category A worker, and periodic medical examinations, performed at least once a year, to verify whether the employee may continue to perform his duties.

3. For each category A worker, the authorised medical practitioner shall set up a medical record, which shall be maintained and updated throughout the whole period of his employment as a worker in this category. This record shall be preserved until the worker attains the age of 75 years or at least for 30 years after the termination of work in occupational exposure conditions.

4. The medical record shall include information on the type of task performed, the results of medical examinations performed prior to employment as a category A worker, the results of periodic examinations and the dose records referred to in Article 21(1).

5. After the termination of work in occupational exposure conditions, the authorised medical practitioner may order further medical surveillance, if this shall be deemed necessary for the worker's health protection.

Article 31

1. In the case of a proven excess of any of the dose limits established in the regulations based on Article 25(1), the head of the organisational entity shall refer the worker for an obligatory medical examination.

2. Further work in occupational exposure conditions shall require the consent of the authorised medical practitioner.

3. In the event that the authorised medical practitioner refuses to allow further employment in occupational exposure conditions, the provisions of labour law relating to workers with recognised symptoms of an occupational disease shall apply accordingly.

Article 32

The worker shall have the right to appeal to the labour court against the medical decisions referred to in Articles 17(8) and 31(2).

Article 33

1. To ensure national nuclear safety and radiological protection in ionising radiation applications in normal circumstances and in radiological emergency situations, the costs of activities referred to in Paragraph 2 may be partially reimbursed from the national budget in the form of a special purpose subsidy, hereinafter referred to as “the subsidy”.

2. The subsidy may be used for:

    1) operating and decommissioning nuclear research reactors,

    2) operating accelerators, X-ray sets and gamma ray sources located in scientific and research and development (R&D) entities, which are used for health service purposes other than diagnostics and radiotherapy,

    3) performing radiological protection, nuclear safety and physical protection services to ensure safety and security of the nuclear centre located in Otwock-Swierk,

    4) assessing the impact of nuclear facilities, accelerators, X-ray sets and gamma ray sources on the environment and human health and conducting research and analyses necessary for such assessments as well as performing control and diagnostic activities following irregularities reported by border and rescue services,

    5) conducting activities aimed at the elimination of the consequences of a radiological emergency occurring in nuclear facilities, and in organisational entities which use ionising radiation sources,

6) performing measurements of ionising radiation dose rates or of radioactive contamination thorough the country, including in organisational entities using ionising radiation sources,

7) calibrating the dosimetric equipment,

8) developing and applying numerical models for radiation situation assessments, which are necessary for implementation of appropriate domestic intervention measures in the case of a radiological emergency,

9) investments supporting the activities referred to in Paragraphs 1 to 8.

3. A subsidy shall be granted by the Agency's President from financial resources provided for this purpose in the Appropriation Act.

4. The subsidy amount shall not be greater than the costs incurred while pursuing pertinent activities, reduced by the proceeds from these activities, and shall not exceed 85% of overall costs of conducted activities.

5. The Council of Ministers shall establish by regulation detailed rules and procedures governing the allocation, accounting and return of subsidies, including a standard application form for the allocation of the subsidy and the necessary enclosures, and the method of documenting the implementation of the task and the use of expenditures covered by the subsidy.

Chapter 4

NUCLEAR FACILITIES

Article 34

1. Nuclear facilities shall include in particular:

1) nuclear power plants, thermal-electric power plants and heating plants equipped with nuclear power reactors,

2) research, experimental and other nuclear reactors,

3) facilities designed for manufacturing, processing, storage and disposal of nuclear materials and nuclear fuel,

– from the start of their construction until the completion of the decommissioning process.

2. Nuclear facilities shall be subject to physical protection.

Article 35

1. The obligation to fulfil the requirements of nuclear safety, radiological protection and physical protection of a nuclear facility during the stages of siting, design, construction, commissioning and test operation shall lie with the investor, whereas during the stages of regular operation or decommissioning, such responsibilities lie with the head of the operating organisation.

2. Independently from the investor's duties, the obligation to fulfil nuclear safety and radiological protection requirements shall be borne by the other participants in the investment process, according to the scope of their tasks.

3. During nuclear facility design, construction, commissioning and operation, all technical and organisational solutions should be applied that, in view of scientific and technological developments, are necessary to ensure that at all stages of the facility operation, the exposure of persons on the site or of other people, and the contamination of the environment will be as low as possible**,** when reasonably taking into account economic and social factors, and will not exceed dose limit values established in the regulations based on Article 25(1).

Article 36

The authority competent to decide on construction and development conditions on the site of a future nuclear facility, according to the Act of Parliament of 7 July 1994 on Land Use Planning (O.J. of 1999 No. 15, Item 139, No. 41, Item 412 and No. 111, Item 1279 and of 2000 No. 12, Item 136, No. 109, Item 1157 and No. 120, Item 1268) shall issue this decision after obtaining positive opinion from the Agency's President on nuclear safety and radiological protection matters.

Article 37

The Agency's President shall issue a licence for construction, commissioning and test operation of a nuclear facility at the investor's request, whereas the licence for regular operation and decommissioning shall be issued at the operating entity's request. The licence shall be a prerequisite in order to obtain permit for nuclear facility construction, utilisation and dismantling referred to in the Act of Parliament of 7 July 1994 – Construction Law (O.J. of 2000 No. 106, Item 1126, No. 109, Item 1157 and No. 120, Item 1268).

Article 38

1. The Voivod (regional governor) shall establish a restricted use area surrounding the nuclear facility, referred to in the Act of Parliament of 27 April 2001 – Environmental Protection Law (O.J. of 2001, No. 62, Item 627).

2. After consultation with the Agency's President, the minister competent in environmental matters, shall establish by regulations detailed rules for the creation of a restricted use area surrounding the nuclear facility, indicating relevant restrictions concerning its uses and in particular taking

into account the site characteristics and conditions, possible accident situations and the distribution of ionising radiation doses at various distances from the facility.

3. The provisions of the Act referred to in Paragraph 1 shall be applicable to cases relating to damage caused by the establishment of a restricted use area.

Article 39

The Agency's President shall issue an order decreasing the power or stopping the operation of a nuclear facility if, in his assessment, further operation of this facility shall endanger nuclear safety. A subsequent increase of power or start-up of the facility shall require the consent of the Agency's President.

Chapter 5

NUCLEAR MATERIALS

Article 40

1. The head of the organisational entity shall be responsible for carrying out nuclear materials accounting and for ensuring the physical protection of nuclear materials referred to in the regulations based on Article 42(1) and 42(2).

2. The system of nuclear materials accountancy shall include:

   1) an internal inventory register, systems of material accounting and controls of nuclear materials conducted in organisational entities engaged in activities involving nuclear materials,

   2) the central accounting and control based on the structure of areas for nuclear materials inventory, hereinafter referred to as "material balance areas".

3. The central nuclear materials accounting and control shall be maintained by the Agency's President in co-operation with appropriate international organisations.

Article 41

1. Nuclear materials shall be subject to physical protection during their manufacturing, processing, storage, use, transport, disposal and trade.

2. The head of the organisational entity engaged in practices involving nuclear materials shall establish a physical protection system which, after the approval of the Agency's President, shall be agreed upon with the Chief of the Police Department of the appropriate voivodship.

3. The Agency's President shall conduct periodic controls of the system referred to in Paragraph 2.

Article 42

The Council of Ministers shall establish by regulations:

1) nuclear materials subject to accountancy, the rules for maintaining the material balance areas and the procedures for maintaining central and internal accounting and control of nuclear materials, including the type of documentation and control performance frequency,

2) nuclear materials subject to physical protection and the types of organisational and technological undertakings in the field of physical protection, establishing nuclear material categories and physical protection levels for each category, as well as the procedures for control performance referred to in Article 41(3).

Chapter 6

IONISING RADIATION SOURCES

Article 43

1. Ionising radiation sources shall be subject to controls and radioactive sources shall also be subject to registration.

2. Responsibility for performing controls of ionising radiation sources and for maintaining registers of radioactive sources status and movements shall lie with the head of the organisational entity engaged in practices involving such sources.

Article 44

1. Devices that contain radioactive substances or produce ionising radiation, prior to their introduction into service, shall be subject to control from the radiological protection point of view. This control shall not cover the devices that can be used in practices which do not require a licence.

2. The control shall be conducted by the organisational entity holding the licence for installation of or trade in such devices.

Article 45

The Council of Ministers shall establish by regulations the detailed conditions for safe work involving ionising radiation sources, taking into account:

1) technological and radiological protection requirements for laboratories using radioactive sources or devices containing such sources, as well as requirements for devices generating ionising radiation and for the laboratories operating such devices,

2) rules for work involving radioactive sources, devices containing such sources and devices generating ionising radiation, which are used in places other than the laboratories referred to in Paragraph 1,

3) methods of carrying out controls and maintaining registers referred to in Article 43(1), including a standard form for maintaining registers of radioactive sources inventory.

Article 46

The Minister competent for health matters shall establish by regulation detailed conditions for safe work involving X-ray sets with radiation energy up to 300 keV used for medical purposes, taking into account:

1) technological requirements and radiological protection requirements for such devices and for the laboratories using them,

2) possible departures from those requirements,

3) methods of carrying control over such devices.

Chapter 7

RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL

Article 47

1. Radioactive waste shall be classified into three categories according to its activity level or surface dose rate: low, medium and high-level radioactive waste. These categories may be further subdivided into sub-categories according to the half-life of radioactive isotopes contained in the waste, or according to its thermal power.

3. Disused (spent) sealed radioactive sources shall form an additional category of radioactive waste.

3. Spent sealed radioactive sources shall be classified into the following sub-categories of spent sealed radioactive sources according to the level of their activity: low, medium and high-level, which shall be further subdivided according to the half-life of contained radioactive isotopes into short-lived and long-lived sub-categories.

Article 48

1. Radioactive waste classification shall be performed by head of the organisational entity, on whose site the waste is present.

2. Radioactive waste classification may be performed by the Agency's President in cases of:

    1) discrepancies in waste classification performed by the head of the organisational entity on whose site the waste is present and the classification performed by the head of the organisational entity receiving the waste;

    2) evidence of irregularities in waste classification by head of the organisational entity on whose site the waste is present.

Article 49

1. Head of the organisational entity, on whose site the radioactive waste or spent nuclear fuel is present, shall be responsible for keeping inventory registers. Inventory registers shall be kept for each type of practice involving radioactive waste or spent nuclear fuel.

2. Radioactive waste containing nuclear materials and spent nuclear fuel shall be subject to physical protection.

Article 50

Radioactive waste and spent nuclear fuel shall be stored in conditions allowing their segregation and in a manner which ensures adequate protection of humans and the environment.

Article 51

The Council of Ministers shall establish by regulations:

    1) a method to classify radioactive waste into categories and sub-categories, taking into account the criteria referred to in Article 47(1) and 47(3);

    2) procedures for maintaining inventory registers and performing controls of radioactive wastes as well as a standard inventory form, taking into account the procedures for maintaining common inventory registers for various practices involved in dealing with radioactive waste or with spent nuclear fuel, and the types of control activities,

    3) conditions for storage of radioactive waste or spent nuclear fuel and the requirements to be met by the facilities, rooms and packaging designed for the storage of radioactive waste belonging to various categories, taking into account the state of matter and other

physicochemical properties of the waste, as well as the requirements to be met by storage facilities for spent nuclear fuel.

Article 52

1. Liquid or gaseous radioactive waste generated as a result of practices referred to in Article 4(1), may be discharged into the environment provided that its radioactive concentration in the environment may be disregarded from the radiological protection point of view. The method for waste discharge and its permissible activity shall be specified in the licence.

2. Radioactive waste that has been treated or which do not require treatment, and spent nuclear fuel which will not be reprocessed, shall be disposed of in repositories.

3. Spent nuclear fuel intended for disposal shall be considered as high-level radioactive waste.

4. Radioactive waste shall be disposed of exclusively in solid form and packaged in a manner which ensures radiological safety for humans and the environment, ensuring heat transfer, prevention of critical mass formation and continuous control of these factors during the disposal and after repository closure.

Article 53

1. Radioactive waste repositories may be divided into near-surface and deep repositories.

2. By decision of the Agency's President, a radioactive waste repository may be declared as the National Radioactive Waste Repository.

Article 54

The authority which, according to the Act referred to in Article 36, is competent to issue decisions on the conditions for construction and development of the site intended for construction of a repository, shall issue such decision after obtaining positive opinion from the Agency's President from the viewpoint of nuclear safety, radiological protection and physical protection.

Article 55

The Council of Ministers shall establish by regulations:

1) radioactive waste categories and sub-categories which may be disposed of in specified types of repositories, taking into account the state of matter and physicochemical properties of the waste intended for disposal,

2) detailed requirements for specific types of repositories concerning siting, construction, operation and closure, taking into account natural phenomena, geological conditions and systems of control,

3) conditions which a repository must fulfil in order to be granted the status of National Radioactive Waste Repository, taking into account the type of repository, categories of radioactive waste and time during which waste can be admitted into the repository,

4) detailed requirements for radioactive waste preparation for disposal, including the types of packaging of the waste placed for disposal.

Article 56

1. Activities involved in dealing with radioactive waste and spent nuclear fuel shall be conducted by the enterprise of public utility referred to in Chapter 14.

2. Activities referred to in Paragraph 1, with the exclusion of radioactive waste and spent nuclear fuel disposal and transport to the repository, may be conducted by some other organisational entity, provided that this organisational entity shall fulfil the requirements for nuclear safety and radiological protection and shall obtain the appropriate licence. In particular, the organisational entity in whose facility the radioactive waste or spent nuclear fuel was generated, may process and store them for the time specified in the licence.

Article 57

1. The "gmina" (commune) on whose territory the National Radioactive Waste Repository is sited, is qualified to receive an annual payment from the national budget:

1) from the date on which the first shipment of waste is accepted for disposal until the date on which the decision to close the repository is made – which shall amount to 400% of the previous year's income from local real estate tax, increased proportionally to the rise in the retail and consumer services price index, established according to the procedure provided in the Act of Parliament of 12 January 1991 on Local Taxes and Duties (O.J. No. 9, Item 31 and No. 101, Item 444; of 1992 No. 21, Item 86; of 1994 No. 123, Item 600; of 1996 No. 91, Item 409 and No. 149, Item 704; of 1997 No. 5, Item 24, No. 107, Item 689, No. 121, Item 770 and No. 123, Item 780; of 1998 No. 106, Item 668, No. 150, Item 983 and No. 160, Item 1058, and of 2000 No. 88, Item 983, No. 95, Item 1041 and No. 122, Item 1325),

2) after the decision to close the repository has been made – which shall amount to 50% of the payment referred to in Paragraph 1, for the period corresponding to the duration of operation of the repository.

2. The payment referred to in Paragraph 1 shall be transferred to the commune from the national budget in equal quarterly instalments, not later than 14 days after the last month of a given quarter.

3. The commune shall not be entitled to such a quarterly instalment if, due to the decisions of appropriate authorities of the commune or of the "powiat" (district) where the commune is located, during any period of the given quarter the admission of radioactive waste shipments into the repository was not possible.

Chapter 8

TRANSPORT OF NUCLEAR MATERIALS, IONISING RADIATION SOURCES, RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL

Article 58

Nuclear materials shall be prepared for transport and transported in a manner which prevents the occurrence of a self-sustaining chain nuclear fission reaction and which complies with physical protection principles.

Article 59

In preparation for transport and during the transport of nuclear materials, ionising radiation sources, radioactive waste and spent nuclear fuel, one should take into account the risks that may result from their physicochemical properties and fulfil the conditions and requirements imposed on hazardous materials transport, established in other regulations.

Article 60

Exposure of individuals participating in the transport, including persons loading and unloading nuclear materials, ionising radiation sources, radioactive waste and spent nuclear fuel, shall be subject to control and the doses received by these individuals shall not exceed the dose limits for occupationally exposed workers established in the regulations issued on the basis of Article 25(1).

Article 61

Conditions and requirements governing the on-site transport, within the site of the organisational entity engaged in manufacturing, processing, use, storage and disposal of nuclear materials, ionising radiation sources with the exception of devices generating ionising radiation, radioactive waste and spent nuclear fuel, shall be established by the Agency's President in the licence.

Article 62

1. Import into and export from the territory controlled by Polish customs of nuclear materials, radioactive sources and devices containing such sources, import of consumer goods emitting ionising radiation, as well as import and export of radioactive waste and spent nuclear fuel, shall

be conducted on the basis of a licence for the performance of practices referred to in Article 4(1), subject to Article 4(2).

2. Import into, export from and transit through the territory controlled by Polish customs of radioactive waste and spent nuclear fuel shall require the consent of the Agency's President.

3. Export from the territory controlled by Polish customs and transit through this territory of radioactive waste and spent nuclear fuel shall be prohibited if the destination of such shipment lies south of 60° southern latitude.

4. The Council of Ministers shall establish by regulations:

   1) conditions governing import into, export from and transit through the territory controlled by Polish customs of nuclear materials, radioactive sources and equipment containing such sources,

   2) the basics for granting the consent referred to in Paragraph 2, the procedure for applying for such consent and the standard document for this procedure.

Chapter 9

NUCLEAR SAFETY AND RADIOLOGICAL PROTECTION CONTROL

Article 63

1. Practices which cause or may cause the exposure of humans and the environment to ionising radiation shall be subject to control from the viewpoint of nuclear safety and radiological protection.

2. Control referred to in Paragraph 1 shall be executed by the:

   1) nuclear regulatory bodies – in the case of practices for which the licence is issued, or the notification is received, by the Agency's President,

   2) the voivodship sanitary inspector or military sanitary inspector – as regards the practices licensed by those bodies.

3. The Minister competent for health issues shall establish by regulations the rules and procedures for control concerning the safe operation for medical purposes of X-ray sets with radiation energy up to 300 keV.

4. The Prime Minister shall establish by regulation the procedures for control within the Office of State Protection by the nuclear regulatory bodies, taking into account the procedures for control

preparation, the documentation of control activities, the preparation of control records, the post-control interventions and information on control results.

Article 64

1. The nuclear regulatory bodies referred to in Article 63(2)(1) shall be the following:

   1) the Agency's President, as the supreme nuclear regulatory body,

   2) the Chief Nuclear Regulatory Inspector as the line supervisor of the inspectors responsible for nuclear control,

   3) the regulatory inspectors responsible for nuclear control.

2. The Chief Nuclear Regulatory Inspector shall be nominated and recalled by the Agency's President from among inspectors responsible for nuclear control.

3. Inspectors responsible for nuclear control shall be nominated and recalled by the Agency's President at the request of the Chief Nuclear Regulatory Inspector.

4. Responsibilities of the nuclear regulatory body shall include in particular:

   1) issuing the licences and notifying other decisions in the matters involving nuclear safety and radiological protection, according to the principles and procedures established by this Act,

   2) performing control in nuclear facilities and in organisational entities possessing nuclear materials, ionising radiation sources, radioactive waste and spent nuclear fuel,

   3) issuing ad hoc instructions referred to in Article 68,

   4) approving training programmes referred to in Article 11(3), with the exclusion of training programmes prepared by organisational entities which for medical purposes operate X-ray sets with radiation energy up to 300 keV.

5. Inspectors responsible for nuclear control shall perform the control under the authority of the Agency's President or of the Chief Nuclear Regulatory Inspector.

Article 65

1. In order to be eligible for nomination an inspector responsible for nuclear control, one must:

   1) possess a certificate of higher education in physics, chemistry, technology or other specialisation useful in nuclear control,

2) have no record for intentional offences,

3) have carried out practical training and passed a qualifying exam for the job of inspector responsible for nuclear control in the area of nuclear safety and radiological protection, conducted by the commission established by the Agency's President,

4) possess a medical certificate to the effect that there are no contraindications for employment in occupational exposure conditions.

2. Costs incurred in relation to the activities of the commission referred to in Paragraph 1(3) shall be covered from the National Atomic Energy Agency budget.

Article 66

1. In the context of regulatory control, the nuclear regulatory bodies shall be entitled to:

1) around the clock access to transport vehicles and the sites of organisational entities where nuclear materials, ionising radiation sources, radioactive waste and spent nuclear fuel are produced, used, stored, disposed of or transported,

2) review the documentation concerning nuclear safety and radiological protection in the controlled organisational entity,

3) check if the activities referred to in Article 4(1) are conducted in compliance with nuclear safety and radiological protection regulations and with the requirements and conditions established in the licence,

4) conduct independent technical and dosimetric measurements whenever needed,

5) request written or oral information if this is necessary to clear up an issue.

2. In performing their control (inspection) duties, the nuclear regulatory bodies shall enjoy the protection provided for public officials in the Penal Code.

Article 67

1. The head of the inspected organisational entity shall ensure the conditions necessary for the conduct of control and shall make available the documents referred to in Article 66(1)(2).

2. Employees of the inspected organisational entity shall provide the regulatory body with all relevant written or oral explanations on the issues involved in the control objectives.

3. The person performing the inspection shall issue a written report, which shall be signed by this person and by the head of the controlled organisational unit.

4. On the basis of the report identifying a non-compliance with nuclear safety and radiological protection regulations, in particular in the form of lack of licence or departure from requirements and conditions established in the licence, the Chief Nuclear Regulatory Inspector shall issue a directive to correct the non-compliance within a specified time.

Article 68

1. If a threat to nuclear safety and radiological protection has been identified during the inspection, to remove that threat the nuclear regulatory body shall issue summary orders containing an injunction or interdiction related to specified activities.

2. Summary orders aimed at removal of a direct threat to nuclear safety and radiological protection shall be executed immediately. Such orders shall be issued in writing; in exceptional circumstances they shall be issued in oral form and should be confirmed immediately in writing.

3. Summary orders addressing threats other than those referred to in Paragraph 2 shall be executed within the time specified in these orders.

4. The head of the inspected organisational entity may appeal to overrule or modify the order referred to in Paragraph 3 to the Chief Nuclear Regulatory Inspector if the order has been issued by a regulatory inspector responsible for nuclear control, or to the Agency's President if the order has been issued by the Chief Nuclear Regulatory Inspector.

5. The appeal referred to in Paragraph 4 shall not suspend the execution of the summary order.

Article 69

1. If non-compliance with a potential impact on nuclear safety and radiological protection has been detected during the inspection, the Agency's President may issue a directive to the head of the controlled organisational entity or to the head of the supervising unit, requesting appropriate corrective actions.

2. The head of the entity or unit to whom such directive is addressed shall notify the Agency's President of the time and method of implementation of the corrective actions within 30 days of receiving the directive.

Article 70

Proceedings concerning control issues shall be based on the Administrative Code regulations.

Article 71

The Council of Ministers, by regulation :

1) may establish detailed tasks and procedures for performance of such control activities, including the tasks of the Chief Nuclear Regulatory Inspector,

2) shall establish detailed requirements for practical training and the qualifying exam for the position of regulatory inspector responsible for nuclear control, taking into account the differences stemming from the regulatory needs for control of specific practices involving exposure and shall establish a standard certificate to attest the acquisition of this qualification.

Chapter 10

ASSESSMENT OF THE NATIONAL RADIOLOGICAL SITUATION

Article 72

1. The Agency's President shall conduct systematic assessments of the national radiological situation.

2. For the assessments referred to in Paragraph 1, the Agency's President shall:

   1) collect, verify and analyse information obtained from the stations for early detection of radioactive contamination, hereinafter referred to as "the stations," and from the units performing radioactive contamination measurements, further called "the units," and from the services possessing the data needed for the assessment of the national radiological situation, including meteorological services,

   2) verify and analyse information obtained from other sources,

   3) create databases and information systems essential for the assessment of the national radiation situation,

   4) analyse and forecast the development of the national radiological situation and estimate the hazards for the population and the environment, on the basis of the information referred to in Paragraphs 1 and 2 and on the databases referred to in Paragraph 3.

3. The Agency's President shall perform the tasks referred to in Paragraph 2 with the support of the Centre for Radiological Emergencies established within the National Atomic Energy Agency.

Article 73

1. Stations and units referred to in Article 72(2)(1) shall operate in the National Atomic Energy Agency, in the bodies subordinated to the National Atomic Energy Agency and in the bodies subordinated to the ministers competent in the areas of internal affairs, environment, higher education, agriculture, health and to the Minister of Defence.

2. Stations shall perform the following tasks:

   1) continuous measurements of gamma dose rate,

   2) automatic detection and signalling any 15% excess in the dose rate value, caused by the presence of artificial radioactive substances,

   3) immediate and automatic transmission of measurement data to the Centre for Radiological Emergencies,

   4) ensuring that the data shall be transmitted in the way compatible with caculation models used in radiation situation assessments.

3. Units shall perform the following tasks:

   1) detection, identification and measurements of radioactive contamination in the environment, agricultural products and foodstuffs,

   2) preliminary evaluation of measurement results and their transmission to the Agency's President.

Article 74

The Agency's President shall co-ordinate the operation of stations and units, and in particular shall:

   1) co-operate with appropriate ministers competent for the areas of internal affairs, environment, higher education, agriculture and health and with the Minister of Defence,

   2) approve measurement technologies, measurement programmes and measurement organisation,

   3) collaborate with appropriate foreign agencies on matters of radioactive contamination detection and measurements.

Article 75

The Council of Ministers shall establish the list of stations and units and their detailed tasks and functions, as well as the ways of performing those tasks, taking as the criterion the feasibility of obtaining the data necessary for the assessment of the national radiological situation.

Article 76

The Agency's President shall receive information on domestic radiological emergencies, in particular those obtained on the basis of Articles 83 and 85(1), and, if necessary, on the basis of information obtained, shall lend immediate assistance in the assessment of the radiation hazard magnitude.

Article 77

1. The Agency's President, in performing the tasks arising from the international system of radiological events notification in the fields of early notification of a nuclear accident, assistance in the event of a nuclear accident or radiation emergency, physical protection of nuclear materials and illicit trade in such materials, as well as carrying out the obligations of the Republic of Poland under bilateral international agreements, shall establish the national contact point.

2. The tasks of the national contact point shall include in particular:

    1) receiving the notifications from the International Atomic Energy Agency (IAEA) and foreign contact points of nuclear accidents, illegal use, displacement or processing of nuclear materials or of a real threat of any such deed, as well as receiving the requests for assistance in the event of a radiological emergency,

    2) notifying the IAEA and contact points referred to in Paragraph 1 of radiological emergencies occurring on the territory of the Republic of Poland and of illegal use, displacement or processing of nuclear materials or of a real threat of any such deed, as well as transmitting requests by the Republic of Poland for assistance in the event of a radiological emergency,

    3) supplying the contact points referred to in Paragraph 1 with other information, according to the obligations of the Republic of Poland under concluded international agreements.

Article 78

The Agency's President may entrust the tasks referred to in Articles 74, 76 and 77 to an institution specialised in radiological protection matters.

Article 79

Upon the Agency's President request, the institutions, organisations and individuals possessing the data and information essential for analyses and assessments of the national radiation situation, shall make them available free of charge.

Article 80

The Agency's President, on the basis of the assessment of the national radiological situation, shall:

1) issue the messages addressed to the general public on the national radiological situation, including information on radioactive contamination levels under normal conditions and in radiological emergency situations,

2) inform the appropriate Voivod (regional) governor or the Council of Ministers of an emergency on a regional or national scale,

3) deliver the information on the radiological emergency and on the foreseen development of the national radiological situation to the Chairman of the Emergency Management Committee at the Council of Ministers.

Article 81

The Agency's President shall issue quarterly messages to the general public concerning the national radiological situation, published in the Offical Journal of the Republic of Poland "Monitor Polski (Polish Monitor)". In the event of a radiological emergency, the public shall be informed according to the procedures specified in Articles 92(3) and 92(4).

Chapter 11

RADIOLOGICAL EMERGENCY MANAGEMENT

Article 82

1. The following types of radiological emergencies shall be distinguished, according to the extent of their impact:

   1) on-site emergency – radiological emergency occurring on the site of the organisational entity, with the impact limited to the area within the site boundaries of the organisational entity,

   2) public emergency on a regional scale – a radiological emergency occurring on the site of the organisational entity or off-site during field works or during the transport of nuclear

materials, ionising radiation sources, radioactive waste and spent nuclear fuel, with the impact limited to the territory of one region only,

3) public emergency on a national scale – a radiological emergency referred to in Paragraph 2, if its impact extends or may extend to a territory larger than that of the region.

2. Each radiological emergency which occurs within the national borders or beyond them, with the impact reaching beyond the borders of the Republic of Poland, shall constitute a public emergency of national scale.

Article 83

In the event of a radiological emergency, the head of the organisational entity conducting activities referred to in Article 4(1) shall secure the emergency site and shall immediately notify the Agency's President and additionally, where the circumstances so justify, shall also notify other organisations and services, in accordance with the facility emergency preparedness plan.

Article 84

1. A radiological emergency, which constitutes an on-site hazard or a threat on a regional or national scale, requires the adoption of appropriate actions, defined respectively in the facility, regional or national emergency preparedness plan.

2. During an on-site radiological emergency, actions aimed at eliminating the threat and its consequences shall be directed by the head of the organisational entity on whose site the emergency has occurred.

3. During a radiological emergency on a regional scale, actions aimed at eliminating the threat and its consequences shall be directed by the Voivod (regional governor), subject to Paragraph 4.

4. If a radiological emergency occurs during transportation, actions aimed at eliminating the threat and its consequences shall be directed by the person responsible for the shipment security in transport, in arrangement with the Voivod (regional governor) appropriate for the locality at which the radiological emergency took place.

5. During a radiological emergency on a national scale, actions aimed at eliminating the threat and its consequences shall be directed by the minister competent for internal affairs, with the assistance of the Agency's President.

Article 85

1. In the event of a radiological emergency caused by an unknown perpetrator, the service which first obtained the information on the event shall secure the emergency site and notify the Agency's President and the Voivod (regional governor) of the affected region.

2. In the case referred to in Paragraph 1, actions aimed at eliminating the threat and its consequences shall be directed by the Voivod (regional governor) of affected region, subject to Article 84(5).

Article 86

If an increased radiation level has been detected, the source of which is unknown, actions aimed at eliminating the threat and its consequences shall be directed by the governor of the affected region, subject to Article 84(5).

Article 87

The Council of Ministers shall establish by regulation:

1) a national emergency preparedness plan, including procedures for co-operation of various authorities and services participating in the elimination of radiological emergencies and of their consequences,

2) a generic facility and regional emergency preparedness plan, indicating the elements essential for prompt response by the appropriate services,

3) intervention level values for various types of intervention, taking into account the recommendations of appropriate international organisations.

Article 88

1. Decisions on the implementation of specific intervention measures may be taken after:

   1) the Agency's President message stating that the radiation emergency with consequences referred to in Article 82(1), Subparagraphs 2 and 3, and 82(3), may result in exceeding the intervention level values,

   2) evaluation of intervention measures feasibility.

2. During the evaluation of intervention measures feasibility, the following should be taken into account:

   1) present and foreseen emergency scenario and range,

   2) actual or possible values for ionising radiation doses,

   3) number of threatened people,

   4) health impact of those intervention measures,

5) foreseen intervention measures costs and the extent of their economic and social impact.

Article 89

1. Intervention measures related to a radiological emergency with impact limited to the territory of a single region shall be implemented in the form of a regulation on order and discipline issued by the Voivod (regional governor) appropriate for the locality at which the event took place. Such a regulation on order and discipline shall be published according to the procedures established for the publication of local laws and regulations.

2. Intervention measures related to a radiological emergency with an impact beyond the territory of a single region shall be implemented in the form of a regulation by the Council of Ministers.

3. The regulation referred to in Paragraph 2, apart from its publication in the Official Journal of the Republic of Poland, shall be made known to the general public through posters displayed in public places in the area where intervention measures are being implemented.

4. The regulations referred to in Paragraphs 1 and 2 shall state the causes of intervention measures, date of implementation, area and foreseen duration time and also the type of necessary intervention measures.

5. Publication of the regulations referred to in Paragraphs 1 and 2 shall be regulated by the provisions of the Act of Parliament of 26 January 1984 – Press Law (O.J. No. 5, Item 24; of 1988 No. 41, Item 324; of 1989 No. 34, Item 187; of 1990 No. 29, Item 173; of 1991 No. 100, Item 442; of 1996 No. 114, Item 542; of 1997 No. 88, Item 554 and No. 121, Item 770; of 1999 No. 90, Item 999).

6. Revocation of intervention measures, in the whole area of their implementation or in some part of this area, shall proceed according to the procedures foreseen for their publication.

Article 90

Intervention measures shall have the following form:

1) temporary relocation,

2) sheltering,

3) stable iodine administration,

4) bans or restrictions on contaminated food and water consumption, on feeding contaminated feeding stuffs to farm animals and on cattle grazing on contaminated pastures.

Article 91

Intervention measures shall be directed by the:

1) Voivod (regional governor) appropriate for the locality at which the radiological emergency took place – in the event of a radiological emergency which constitutes a public threat on a regional scale,

2) Minister competent for internal affairs – in the event of a radiological emergency causing:

   a) a public threat on a national scale,

   b) a public threat on a regional scale, if the implementation of the intervention measures is beyond the capabilities of services subordinated to the regional governor.

Article 92

1. In the event of a radiological emergency in which the dose to the population may exceed the dose limit, the population shall be notified by the Agency's President of:

   1) the radiological situation, and in particular of the emergency site, foreseen emergency scenario and impacts on people and the environment,

   2) the possible health protection measures and activities.

2. The Agency's President shall pass on the information referred to in Paragraph 1, Subparagraph 2, after consultation with the minister competent for health.

3. Publication of information referred to in Paragraph 1 shall be regulated by the Press law, subject to Paragraph 4.

4. Publication of the information referred to in Paragraph 1 shall not require its delivery by the government spokesman.

Article 93

Costs of intervention measures and of the elimination of radiological emergency consequences shall be borne by the organisational entity which caused the emergency; whereas in the case of emergencies caused by unknown perpetrators or emergencies which have occurred outside the borders of the Republic of Poland, such costs shall be borne by the national budget.

Article 94

A report on a radiological emergency, after the intervention measures deactivation, shall be submitted:

1) by the Voivod (regional governor) to the minister competent for internal affairs – in the case referred to in Article 91(1),

2) by the minister competent for internal affairs and the Agency's President to the Prime Minister – in the cases referred to in Article 91(2).

Article 95

1. If the means at the disposal of the authority directing the actions aimed at eliminating the threat and its consequences are inadequate, this authority may impose the obligation to render personal and material services.

2. Issues involving the obligations referred to in Paragraph 1 shall be governed by pertinent regulations concerning the services rendered in natural disaster situations.

Article 96

1. The head of the organisational entity and the Voivod (regional governor), each according to his respective scope of responsibilities, shall conduct periodic exercises aimed at emergency preparedness plan testing and updating. In case of nuclear facility, the exercise shall be conducted by the head of the organisational entity, starting from the activities included in the emergency plan for the commissioning stage. The exercise costs shall be borne respectively by the organisational entity or by the regional governor.

2. The Minister competent for internal affairs shall conduct periodic exercises to test the national emergency preparedness plan at least once every three years. The costs involved in the preparation and conduct of such exercises shall be borne by the budget of the Minister competent internal affairs.

Article 97

1. Foodstuffs, drinking water and feeding stuffs, imported into the territory controlled by Polish customs and originating from a country referred to in the regulations based on Article 99(1)(b), should possess an export certificate issued by the appropriate authority in the exporting country, stating that the radioactive material content does not exceed the levels specified in the regulations based on Article 99(1)(a).

2. In the event of a justified suspicion that the radioactive substances content in imported foodstuffs, drinking water and feeding stuffs exceeds the levels established in the regulations based on Article 99(1)(a), customs authorities may request the performance of verification measurements.

3. Measurements shall be performed by the units authorised to perform such measurements on the basis of separate regulations, and by other units designated by the Agency's President in agreement with the appropriate minister.

4. Sampling of foodstuffs, stimulants and feeding stuffs intended for measurements shall be taken according to the rules established in other regulations.

5. Measurements shall be performed at the expense of the importer.

Article 98

1. Subsequent to a radiological emergency, domestically produced foodstuffs, drinking water and feeding stuffs, before their introduction on the market, shall be subject to controls to establish that the radioactive substances content does not exceed the levels established in the regulations based on Article 99(1)(a).

2. Radioactive substances content measurements shall be regulated respectively by the Article 97(3) and 97(4). On the completion of the measurements, the units shall issue certificates stating the measurement results.

3. Foodstuffs, drinking water and feeding stuffs with radioactive substances content exceeding the values established in the regulations based on Article 99(1)(a), shall be deemed products unfit for consumption. The rules for handling such foodstuffs shall be established in separate regulations.

Article 99

The Council of Ministers, by regulations:

1) shall establish:

   a) the level of radioactive substances content in the foodstuffs, drinking water and feeding stuffs contaminated as the result of a radiological emergency, imported for trade purposes and domestically produced in the case referred to in Article 98(1), taking into account ionising radiation dose limits established in the regulations based on Article 25(1),

   b) a standard export certificate form and the list of exporting countries,

   c) the date of introduction and discontinuation of the compulsory control referred to in Article 98(1) and the standard certificate referred to in Article 98(2),

2) may establish the level of radioactive substances content in raw materials and manufactured products imported into the territory controlled by Polish customs after radiological emergencies, taking into account ionising radiation dose limits and the rules for handling such products.

Chapter 12

CIVIL LIABILITY FOR NUCLEAR DAMAGES

Article 100

For the purposes of this Chapter, the terms listed below shall have the following meaning:

1) nuclear installation:

   a) any nuclear reactor, with the exception of a reactor installed in a vehicle of sea or air transport, as a source of power, for propulsion or for any other purposes,

   b) any facility using nuclear fuel for nuclear material manufacturing or facility for processing nuclear materials, including facilities for spent nuclear fuel reprocessing,

   c) any installation in which nuclear material is stored, other than storage incidental to the transportation of such nuclear material,

2) nuclear reactor – any device containing nuclear fuel in such an arrangement that a self-sustaining chain nuclear fission reaction can occur therein without an additional neutron source,

3) nuclear fuel – any material which is capable of producing energy through a self-sustaining chain nuclear fission reaction,

4) nuclear material:

   a) nuclear fuel, other than natural uranium or depleted uranium, capable of producing energy through a self-sustaining chain nuclear fission reaction outside a nuclear reactor, either by itself or in combination with other materials,

   b) radioactive products or waste – radioactive material generated in the processes of nuclear fuel production or use, or material which became radioactive after irradiation during such processes, but excluding radioactive isotopes which have reached the final stage of their production so that they could be used for applications in research, medicine, agriculture, trade or industry,

5) nuclear damage:

   a) personal injury,

   b) damage to property,

c) damage to the environment – the costs of measures of reinstatement which aim to restore the impaired environment viewed as common property to its natural state, unless such impairment is insignificant,

d) loss of potential income which the injured party could have obtained if it were not for the damages referred to in Subparagraphs (a) and (b), as well as the loss of income related to the damage to the environment viewed as common property

– to the extent that the damage arises out of or results from ionising radiation emitted by any radiation source inside a nuclear installation or emitted from nuclear fuel, radioactive materials and radioactive waste or by nuclear materials originating in, generated in or introduced into a nuclear installation, whether they result from the radioactive properties of such materials or from the combination of such radioactive properties with toxic, explosive or other dangerous properties of such materials,

e) the costs of preventive measures or damages caused by such measures,

6) measures of reinstatement (to restore the environment to its unimpaired state) – any measures properly applied with a view to reinstating or repairing all damaged or destroyed components of the environment or – whenever justified – to introduce equivalent substitutes,

7) preventive measures – any appropriate measures taken after a nuclear incident has occurred to prevent or minimise nuclear damage referred to in Paragraph 5, Subparagraphs (a) to (d),

8) nuclear incident – any occurrence or series of occurrences having the same origin which causes nuclear damage or creates a grave and imminent threat of causing such damage,

9) operator – any entity which operates a nuclear installation,

10) SDR – the unit of account within the meaning of the Act of Parliament of 18 December 1998 – Foreign Currency Law (O.J. No. 160, Item 1063 and of 1999 No. 83, Item 931 and of 2000 No. 103, Item 1099).

Article 101

1. Exclusive liability for nuclear damage caused by a nuclear incident in a nuclear installation or related to this installation shall be borne by the operator, with the exception of damage caused directly by acts of war or armed conflict.

2. In the course of transportation of nuclear materials, the liability shall lie with the operator of nuclear installation from which such materials have been dispatched, unless otherwise stipulated in the contract with the consignee.

3. If the person suffering the damage, by result of intentional behaviour has caused or aggravated that damage, the court of justice may relieve the operator, wholly or partially, from his obligation to pay compensation in respect of the damages suffered by such individual.

Article 102

1. The operator's liability for nuclear damage to property or the environment shall be limited to the amount equivalent to 150 million SDRs; however the compensation for insignificant environmental damage shall be limited to the reimbursement of actual or future costs of reinstatement measures taken to restore the environment to its unimpaired status.

2. In the event that the claims for damage to property or to the environment exceed the amount referred to in Paragraph 1, the operator may establish a limited liability fund. The procedure for establishing and distributing of this fund shall be regulated by relevant regulations on the limited liability for sea claims in the Sea code, subject to Paragraphs 3 to 5.

3. In matters related to the establishment of the fund and of its distribution, jurisdiction shall lie with the District Court in Warsaw.

4. The petition to start the proceedings regarding the establishment and distribution of the fund should conform with general conditions for petitions to start legal proceedings and additionally should include:

   1) the name of the nuclear installation,

   2) identification of the nuclear incident which constitutes the basis for claims and information on the activities aimed at the determination of this accident's scenario,

   3) description of the type of claims to be settled and creditors to be satisfied from the fund, as well as information on the claims, which already – according to the applicant's knowledge – have been brought to the court,

   4) statement of the intention to establish the fund, the justification of its magnitude and the description of the method of its establishment.

5. Documents containing data relevant to the fund's magnitude should be jointed to the petition.

Article 103

1. The operator shall be required to maintain financial security covering his liability. If, apart from damage to property or the environment, a nuclear incident also causes personal injury, 10% of this financial security shall be earmarked for settling the claims involving nuclear damages to the affected persons.

2. If within five years from the date of a nuclear incident, the claims against the operator involving nuclear damages resulting in personal injury do not exceed the total amount of the security intended exclusively for settling such claims, the remainder of this security shall be used for settling claims involving damage to property or the environment, and also the claims for personal injury brought not later than within ten years from the date of the nuclear incident.

3. The National Treasury shall guarantee the payment of compensation for nuclear damage incurred by an individual, where such amount could not be settled from the financial security referred to in Paragraphs 1 to 2.

4. The Minister competent for public finance matters shall establish by regulations the procedures for setting up the financial security referred to in Paragraph 1, taking into account the amount, type and conditions of such security.

Article 104

1. Claims for nuclear damage may be filed directly against the person providing the financial security covering the operator's liability.

2. In the case referred to in Paragraph 1, the person providing the security may benefit from the limitation of liability and of other defences to which the operator is entitled.

Article 105

1. Claims for compensation for nuclear damage resulting in personal injury incurred by an individual shall not be extinguished.

2. Claims for compensation for nuclear damage to property or to the environment shall be extinguished if an action is not brought within three years from the date on which the person suffering the damage had knowledge or should have had knowledge of the identity of the liable party. However, such rights shall be extinguished after ten years from the date of the nuclear incident.

3. The right to claim compensation for nuclear damage to the environment shall be vested in the minister competent for environmental matters.

Article 106

1. Where the nuclear damage was caused by a nuclear incident that occurred within the territory of the Republic of Poland, applications instituting proceedings shall be filed with the district courts of law.

2. Cases related to damage claims shall be regulated by the provisions of the Code of Civil Procedure

3. Where the nuclear damage was caused by a nuclear incident that occurred outside the territory of the Republic of Poland, jurisdiction for applications instituting proceedings shall lie with the courts as determined by the Convention on Civil Liability for Nuclear Damage, adopted in Vienna on 21 May 1963 (O.J. of 1990 No. 63, Items 370 and 371).

Article 107

1. On the issues not covered by this Chapter, nuclear installations shall be regulated by relevant regulations for nuclear facilities.

2. Claims for damages, to the extent not covered by this Chapter, shall be regulated by the provisions of the Civil Code.

Article 108

The provisions of this Chapter shall not infringe upon the regulations on the payment of benefits for industrial injuries and occupational illnesses.

Chapter 13

THE PRESIDENT OF THE NATIONAL ATOMIC ENERGY AGENCY

Article 109

1. The President of the National Atomic Energy Agency, hereinafter referred to as "the Agency's President", constitutes the central organ of the governmental administration, competent for nuclear safety and radiological protection matters to the extent specified in this Act.

2. The Agency's President shall be nominated and recalled by the Prime Minister.

3. The Agency's deputy presidents shall be nominated and recalled by the Prime Minister, upon request of the Agency's President.

4. Supervision over the Agency's President shall be exercised by the Prime Minister.

Article 110

The scope of activities of the Agency's President shall include the co-ordination of the tasks involving national nuclear safety and radiological protection, in particular:

1) preparation of draft documents relating to national policies involving nuclear safety and radiological protection, taking into account the development of a nuclear power programme and both internal and external risks,

2) exercising regulatory control over the activities leading to actual or potential ionising radiation exposure of humans and the environment, including the issuance of licences, authorisations and other decisions as provided in this Act,

3) publication of technical and organisational recommendations concerning nuclear safety and radiological protection,

4) performing the tasks concerning the assessment of the national radiological situation in normal conditions and in radiological emergency situations and the transmission of relevant information to appropriate authorities and to the general public,

5) performing the tasks resulting from the obligations of the Republic of Poland concerning nuclear materials accountancy, physical protection of nuclear materials and facilities, special control measures for foreign trade in nuclear materials and technologies and from other obligations resulting from international agreements on nuclear safety and radiological protection,

6) activities involving public communication, education and popularisation, as well as the scientific, technical and legal information concerning nuclear science and atomic issues, including the information on ionising radiation and its impact on human health and environment and on feasible measures to be activated in the event of radiological emergency,

7) co-operation with governmental and local administration authorities on matters involving nuclear safety and radiological protection, and in nuclear research issues,

8) performing tasks involving national and civil defence and the protection of classified information, resulting from separate legislation,

9) preparation of the opinions on proposed technical activities involving the peaceful uses of atomic energy, as may be needed by governmental and local administration authorities,

10) co-operation with appropriate foreign agencies and international organisations on the issues covered by this Act,

11) preparation of drafts of legislation and regulations on the issues covered by this Act and conducting the process of establishing their final form, according to the procedures established in the Council of Ministers working rules,

12) issuing opinions on the draft legislation developed by authorised bodies,

13) submitting to the Prime Minister annual reports on the Agency's President activities and on the assessments of the national nuclear safety and radiological protection situation.

Article 111

The Prime Minister may establish by regulation the detailed range of activities for the Agency's President.

Article 112

1. The Agency's President shall execute his tasks through the National Atomic Energy Agency, hereinafter referred to as "the Agency."

2. The Council for Atomic Affairs of the National Atomic Energy Agency, hereinafter referred to as "the Council", shall act as the Agency's President consulting and opinion-giving body.

3. The Prime Minister shall establish by regulation the scope and procedures for the Council's activities, defining its working rules and the number of its members.

4. The Council's Chairman shall be nominated and recalled by the Prime Minister, on the request of the Agency's President.

5. Members of the Council shall be nominated and recalled by the Agency's President.

Article 113

1. The Prime Minister shall invest the Agency with a statute establishing its internal organisation.

2. The Agency's detailed organisation, its working rules and the tasks of its organisational sub-units shall be established in organisational rules issued by the Agency's President in the form of an order.

Chapter 14

STATE-OWNED PUBLIC UTILITY "RADIOACTIVE WASTE MANAGEMENT PLANT"

Article 114

1. The State-owned public utility named "Radioactive Waste Management Plant" located in Otwock-Swierk, hereinafter referred to as "the Plant", shall be established for conducting the activities involving radioactive waste management and spent nuclear fuel management, and – above all – ensuring permanent feasibility of radioactive waste and spent nuclear fuel disposal.

2. The Plant may also perform activities in the field of hazardous waste management referred to in the regulations governing waste, and other activities specified in the statute referred to in Article 121.

Article 115

1. The Plant shall be invested with legal personality.

2. Governmental bodies may undertake decisions concerning the Plant's activity only in the cases covered by this Act.

Article 116

1. Supervision over the Plant and the founder's functions shall be executed by the minister competent for economic affairs.

2. The minister competent for economic affairs shall control the Plant's activities and submit those activities to an annual evaluation, which he shall present to the Prime Minister not later than on 30 March of the following year.

3. Minister competent for economic affairs may establish a commission to evaluate the Plant's administration and to prepare conclusions resulting from this evaluation.

4. On the basis of the commission's conclusions, the minister competent for economic affairs may oblige the Plant's director to improve the Plant's administration or to submit and implement a corrective action program. Such program shall be approved by the minister competent for economic affairs.

5. The Minister competent for economic affairs, upon finding that the Plant's director decision violates some law or regulation, shall order the suspension of the execution of the decision and shall oblige the Plant's director to modify or cancel this decision.

6. The Plant's director shall be entitled to appeal against the decisions taken by the Minister competent for economic affairs, according to the rules and procedures established in the regulations governing state-owned enterprises.

Article 117

1. The Plant shall be managed and externally represented by the director, who shall constitute the Plant's official organ.

2. The Plant's director shall be nominated and recalled by the Minister competent for economic affairs.

3. The director may nominate and recall the Plant's deputy directors and its agents, who shall act independently within their scope of competence.

4. Agents shall be granted their power of attorney in written form, otherwise it shall be considered null and void.

5. Power of attorney granting and revocation shall be entered into the register of state-owned enterprises, with the exception of powers of attorney for the performance of specific activities and for powers of attorney in legal proceedings.

6. Employee self-governing bodies shall not be active in the Plant.

Article 118

1. In business transactions the Plant shall act in its own name and on its own account.

2. The Plant shall collect payments for performed activities.

3. The sale and management of tangible fixed assets or of organised parts of the property shall be regulated by the regulations for state-owned enterprises.

4. Tangible fixed assets shall not be used for settlement of the Plant's monetary obligations.

Article 119

1. The Plant shall receive from the national budget an allocated subsidy for radioactive waste management and spent nuclear fuel management.

2. The amount of this subsidy shall be established in budgetary legislation, upon request of the Minister competent for economic affairs.

3. The Plant's director shall submit to the Minister competent for economic affairs the accounting for the disposal of the subsidy, according to the regulations based on Article 120(2).

Article 120

1. The Plant's finances shall be managed according to the rules for finance management in state-owned enterprises, except as otherwise provided in this Act.

2. The Council of Ministers shall establish by regulations accountability procedures for the subsidy referred to in Article 119(1), including the type of documentation and the data required for such accounting procedures, the method for fixing the payments referred to in Article 118(2), together with the factors which should be taken into account while fixing the payments, the procedures and timing for issuing public announcements on such payments and detailed rules for the Plant's finances management, including financial reports and rules for choosing the experts for performing audits and the competent authority for final approval of the Plant's annual financial reports, procedures for disposal of property, financing of salaries and investments, and also the procedures for decision making on financial issues.

Article 121

1. The Plant's detailed tasks, organisational scheme, procedures for creating outer branch offices and their powers, internal control system and operating rules shall be established in the Plant's statute; additional tasks shall be specified taking into account the necessity for ensuring the

implementation of the tasks for which the Plant has been created, the division of the Plant into the task and service departments, the scope of issues which shall not be delegated to outer branch offices.

2. The statute may provide for the establishment of advisory and opinion-making bodies for the Plant's director.

3. The Plant shall receive its statute in the form of a regulation issued by the Minister competent for economic affairs.

Article 122

The provisions of the Act of Parliament of 30 August 1996 on the Commercialisation and Privatisation of State-Owned Enterprises (O.J. No. 118, Item 561 and No. 156, Item 775; of 1997 No. 32, Item 184, No. 98, Item 603, No. 106, Item 673, No. 121, Item 770, No. 137, Item 926 and No. 141, Item 945; of 1998 No. 106, Item 668; of 1999 No. 40, Item 400 and No. 101, Item 1178; of 2000 No. 15, Item 180, No. 26, Item 306, No. 31, Item 383, No. 60, Item 703, No. 84 Item 948 and No. 122, Item 1315) shall not be applicable to the Plant.

Chapter 15

PENAL REGULATIONS

Article 123

1. A fine of an amount not exceeding five times the average monthly pay in the national economy, calculated for three quarters of the year prior to the occurrence of the violation and published by the President of the Central Statistical Office on the basis of the Act of Parliament of 26 July 1991 on Personal Income Tax (O.J. of 2000, No. 14 Item 176, No. 22 Item 270, No. 60 Item 703, No. 70 Item 816, No. 104, Item 1104, No. 117, Item 1228 and No. 122, Item 1324), shall be imposed on the head of the organisational entity, who:

    1) without the required licence, or in violation of the conditions attached to such a licence, engages in the activities referred to in Article 4(1), Subparagraphs 2 to 8, or in the import or export referred to in Article 62(1), or employs workers who do not possess the qualifications or skills established in this Act,

    2) bearing the responsibility for nuclear safety and radiological protection, allows the exposure of a worker or some other individual in violation of the provisions in Article 14(1) concerning the provisions of Article 25(1), and of Article 19(1) and Article 20, Paragraphs 1 to 3,

    3) does not fulfil his responsibilities concerning nuclear safety and radiological protection in work involving nuclear materials, ionising radiation sources, radioactive waste and

spent nuclear fuel and during the preparation of those materials for transport and disposal,

4) loses or leaves without proper protection nuclear material, ionising radiation source, radioactive waste or spent nuclear fuel consigned to his care,

5) does not fulfil the requirements concerning dosimetric control or the inventory of nuclear materials, ionising radioactive sources, radioactive waste and spent nuclear fuel,

6) prevents or impedes the conduct of regulatory inspection concerning nuclear safety or radiological protection, or refuses to give information or gives false information or conceals the truth in matters concerning nuclear safety and radiological protection.

2. A fine of an amount not twice the average monthly pay in the national economy, calculated for the year prior to the occurrence of the violation and published by the President of Central Statistical Office basing on the act referred to in Paragraph 1, shall be imposed on the nuclear facility employee, who does not notify his supervisor or the regulatory body of the event or condition which may cause a threat to nuclear safety or radiological protection.

Article 124

1. Financial penalties referred to in Article 123, in the form of an administrative decision, shall be imposed by:

1) the Chief Nuclear Regulatory Inspector – in the cases when the Agency's President issues the licence for, or receives the notification of, the practice,

2) the regional sanitary inspector or military inspector – in the cases when the licence is issued by those bodies.

2. Decisions referred to in Paragraph 1 shall be executed immediately.

Article 125

1. Fines shall not be imposed after a lapse of five years since the perpetration of the offence.

2. Fines shall not be collected after a lapse of five years since the time of the final decision to impose the fine.

Article 126

1. Penalties imposed on the basis of Article 123, together with the default interest, shall be collected according to the procedure established in the regulations on the administrative execution proceedings.

2. Revenue obtained from fines shall constitute income for the national budget.

Article 127

Persons who do not respect the:

1) order for temporary relocation,

2) order on sheltering indoors,

3) ban on cattle grazing on contaminated area or the ban on feeding contaminated feeding stuffs to domestic animals,

– shall be subject to imposition of a fine or arrest.

Chapter 16

TRANSITIONAL, ADAPTIVE AND FINAL PROVISIONS

Article 128

The property of the "Experimental Plant for Radioactive Waste Management", legally and organisationally dissociated from the property of the research and development entity named "Atomic Energy Institute" located in Otwock-Swierk, shall become the property of the Plant referred to in Article 114(1).

Article 129

The minister competent for economic affairs, by arrangement with the minister competent for public finance matters, may endow the Plant with property other than that referred to in Article 128.

Article 130

Until the appointment of the Plant's director, the Plant shall be directed by a temporary director, appointed by the minister competent for economic affairs for a period not longer than six months.

Article 131

Employees of the Experimental Plant for Radioactive Waste Management of the Atomic Energy Institute shall become the employees of the Plant in accordance with Article 23 (Mod. 1) of the Labour Code.

Article 132

The Minister of Defence with regard to the organisational entities under his authority, and the minister competent for internal affairs with regards to the General Police, National Fire Service, National Border Guard and other subordinated organisational units, after consulting the Agency's President, shall establish implementation procedures for this Act by regulations.

Article 133

1. The Chief Nuclear Regulatory Inspector and regulatory inspectors who have been appointed or authorised before the date of entry into force of this Act, shall become respectively the Chief Nuclear Regulatory Inspector and regulatory inspectors within the meaning of this Act.

2. Licences issued according to the act referred to in Article 138 shall be valid for the time established in the licence.

3. Authorisations obtained according to the provisions of Article 33(3)(1) and 33(4) of the Act referred to in Article 138, shall be valid for the time established in the authorisation.

4. Licences concerning radioactive substances purchase and use, issued according to the regulations valid before the act referred to in Article 138 entered into force, and in particular those issued according to the:

    1) Council of Ministers Regulation of 18 June 1968 on Safety and Hygiene in Work Involving Ionising Radiation Applications (Official Journal No. 20, Item122);

    2) Council of Ministers Resolution No. 266/64 of 29 August 1964 on Radioactive Substances Use;

    3) Regulation No. 23/70 of 21 July 1970 by the Government Plenipotentiary for Nuclear Energy Uses on Radioactive Materials Purchase and Applications

    – shall be valid until their replacement by licences issued according to the provisions of this Act, but not longer than for 24 months as from the date of its entry into force.

5. The National Radioactive Waste Repository in Rózan, established according to the regulations based on the provisions of the act referred to in Article 138, shall be recognised as the National Radioactive Repository Facility within the meaning of this Act.

6. Proceedings which have been started before the date of this Act entry into force shall be continued and concluded in accordance with previous regulations.

Article 134

In the Regulation by the President of Republic of Poland of 24 October 1934 – Bankruptcy Law (O.J. of 1991: No. 118, Item 512; of 1994 No. 1, Item 1; of 1995 No. 85, Item 426; of 1996 No. 6, Item 43, No. 43, Item 189, No. 106, Item 496, No. 149, Item 703; of 1997 No. 28, Item 153, No. 54, Item 349, No. 117, Item 751, No. 121, Item 770, No. 140, Item 940; of 1998 No. 117, Item 756 and of 2000 No. 26, Item 306, No. 84, Item 948, No. 94, Item 1037 and No. 114, Item 1193) the word "and" in Article 3, Paragraph 2, subsequent to the words "*Porty Lotnicze* (Airports)" shall be replaced by a comma, and after the words "*Poczta Polska* (Polish Post Office)" the following words shall be added: "and state-owned utility – Radioactive Waste Management Plant."

Article 135

In the Act of Parliament of 25 September 1981 on State-Owned Enterprises (O.J. of 1991: No. 18, Item 80, No. 75, Item 329, No. 101, Item 444, No. 107, Item 464; of 1993: No. 18, Item 82, No. 60, Item 280; of 1994: No. 1, Item 3, No. 80, Item 368, No. 113, Item 547; of 1995: No. 1, Item 2, No. 95, Item 474, No. 154, Item 791; of 1996: No. 90, Item 405, No. 106, Item 496, No. 118, Item 561, No. 156, Item 775; of 1997: No. 43, Item 272, No. 106, Item 675, No. 121, Item 769 and 770 and No. 123, Item 777; of 2000 No.26, Item 306 and No. 84, Item 848), in Article 4(2) the following Paragraph 3 shall be added: "3) state-owned utility 'Radioactive Waste Management Plant'."

Article 136

The Act of Parliament of 4 September 1997 on the Governmental Administration Divisions (O.J. of 1999 No. 82, Item 928 and of 2000 No. 12, Item 136, No. 43, Item 489, No. 48, Item 550, No. 62, Item 718, No. 70, Item 816 and No. 73, Item 852, No. 109, Item 1158 and No. 122, Items 1314 and 1321) is hereby amended as follows:

1) in Article 9(3) the words "National Atomic Energy Agency" shall be deleted,

2) in Article 33a, after Paragraph 3, the following Paragraph 3a shall be inserted: "the National Atomic Energy Agency."

Article 137

Implementing regulations, issued on the basis of the Act referred to in Article 138, shall be valid until the time of entry into force of the implementing regulations based on legal authorisations under the terms of this Act, within the scope consistent with the provisions of this Act, but not longer than for 12 months from the date of entry into force of this Act.

Article 138

The Act of Parliament of 10 April 1986 – Atomic Law (O.J. No. 12, Item 70; of 1987 No. 33, Item 180; of 1991 No. 8, Item 28; of 1994 No. 90, Item 418; of 1995 No. 104, Item 515; of 1996 No. 24, Item 110 and No. 106, Item 496) is hereby repealed.

Article 139

This Act shall enter into force on 1 January 2002, with the exception of:

1) Chapter 13 and Article 136, which shall enter into force 14 days after publication,

2) Article 21(2) and Article 27(2), which shall enter into force 24 months after publication.

REPUBLIC OF KOREA

Act on Compensation for Nuclear Damage*

Article 1 (Purpose)

The purpose of this Act is to protect victims and to contribute to the sound development of the nuclear industry by establishing matters relating to compensation in the event of nuclear damage arising during the operation of a nuclear reactor.

Article 2 (Definitions)

1. For the purposes of this Act, the following terms shall be defined as follows:

    1. "Operation of a reactor" means such actions falling under any of the following, including transportation, storage and disposal of nuclear fuel material or other material contaminated by nuclear fuel material incidental thereto (including nuclear fission products).

        a. operation of a reactor,

        b. conversion as provided for by presidential decree,

        c. fabrication as provided for by presidential decree,

        d. processing of spent nuclear fuel as provided for by presidential decree,

        e. use of nuclear fuel material as provided for by presidential decree,

        f. storage, treatment or disposal of radioactive waste as provided for by presidential decree.

    2. "Nuclear damage" means any costs provided for in the following Subparagraphs, and damage (including loss of economic interest suffered from significant impairment of the

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* Act No. 2094 of 24 January 1969, as amended by: Act No. 2765 of 7 April 1975, Act No. 3549 of 1 April 1982 (the Atomic Energy Act), Act No. 3849 of 12 May 1986, Act No. 4940 of 1 January 1995 (the Atomic Energy Act), and Act No. 6350 of 16 January 2001.

Translation kindly provided by the Korean authorities.

environment) caused by the effects of the fission process of nuclear fuel material, or by the effects of radiation of nuclear fuel material or other materials contaminated by nuclear fuel material, or by the effects of the toxic nature of such materials, provided however, that damage suffered by the relevant nuclear operator or damage suffered by his employees as a result of performance of their duties is excluded:

a. the costs of measures taken or to be taken in accordance with the plan pursuant to the Disaster Management Act or other laws relevant thereto in order to reinstate significantly impaired environment,

b. the costs of preventive measures (including additional loss or damage resulting from the implementation of preventive measures) taken in accordance with the measures plan pursuant to the Disaster Management Act or other laws relevant thereto in order to mitigate or minimise damage or costs in the case of a nuclear incident, and in order to prevent or minimise damage or costs in the case of a grave and imminent threat of causing such damage.

3. For the purpose of this Act, "nuclear operator" means any person who is or was any of the following:

a. a person who is granted a construction permit or an operating licence for a nuclear reactor and related facilities,

b. a foreign nuclear ship operator who has made a notification for entry into or departure from a Republic of Korea port,

c. a person who is granted a licence for a fabricating enterprise (including a conversion enterprise),

d. a person who is designated for processing of spent nuclear fuel ,

e. a person who is granted a licence to use nuclear fuel material,

f. a person who is granted a construction and operation permit for disposal facilities,

g. a nuclear energy research and development institution, a nuclear energy specialised safety institution or any other entities which produce or provide services related to nuclear energy.

4. For the purposes of this Act, "nuclear incident" means any occurrence or series of occurrences having the same origin which causes nuclear damage or creates a grave and imminent threat of causing such damage.

2. The definition of terms used in this Act shall follow that of the Nuclear Energy Act, except for those specified in Paragraph 1 of this Article.

Article 2-2 (Scope of Application)

1. This Act shall apply to nuclear damage suffered as a result of a nuclear incident occurring in the territory (including the territorial sea) and the exclusive economic zone of the Republic of Korea.

2. This Act shall apply to any other State on condition of reciprocity, *i.e.* if a State prohibits or restricts compensation for nuclear damage suffered by an individual, legal person, entity or government of the Republic of Korea, this Act may exclude from or restrict in its application thereof any individual, legal person, entity or Government of such State.

Article 3 (Strict Liability, Channelling of Liability. etc.)

1. The nuclear operator concerned shall be liable for nuclear damage caused by the operation of the nuclear reactor, provided however, that this shall not apply to damage caused by an act of armed conflict or hostilities among nations, civil war or insurrection.

2. When nuclear damage is caused as a result of the transportation between nuclear operators of nuclear fuel material or other materials contaminated by it, the nuclear operator who is the consignor of the nuclear fuel material shall be liable for the damage, provided however, that if a special agreement has been made between the nuclear operators with regard to liability, that special agreement shall apply.

3. Where a nuclear operator is liable for nuclear damage in accordance with Paragraphs 1 or 2 of this Article, no other person shall be liable for nuclear damage.

4. The provisions of Articles 746 through 748 and Articles 842 and 848 of the Commercial Code shall not apply to nuclear damage incurred as a result of the operation of a nuclear reactor installed as a source of power on a ship.

5. The provisions of the Product Liability Act shall not apply to nuclear damage caused by the operation of nuclear reactors.

Article 3-2 (Limit of Liability)

1. The liability of the nuclear operator for nuclear damage shall be limited, for any one nuclear incident, to not less than 300 million SDRs. However this provision shall not apply if the nuclear damage was caused by a wilful act or omission of the nuclear operator done with intent to cause damage.

2. The SDRs (Special Drawing Rights) referred to in Paragraph 1 of this Article means the unit of account defined by the International Monetary Fund.

Article 4 (Rights of Recourse)

1. Where nuclear damage is caused by the wilful act or gross negligence of a third party, a nuclear operator who has provided compensation for nuclear damage in accordance with Article 3 shall have a right of recourse against such third party, provided however, that where the nuclear

damage occurs due to the supply of material or services (including labour) for the operation of a nuclear reactor (hereinafter referred to as "supply of material"), the nuclear operator shall have a right of recourse only insofar as there has been a wilful act or gross negligence by the supplier of the materials concerned or by his employees.

2. If, in the circumstances described in Paragraph 1 of this Article, a special agreement has been made regarding rights of recourse, such agreement shall govern.

Article 5 (Duty of Providing Financial Security)

1. A nuclear operator is prohibited from operating a nuclear reactor unless financial security for the compensation of nuclear damage (hereinafter referred to as "financial security") has been provided.

2. Financial security shall be provided by means of a contract of liability insurance for nuclear damage, an indemnity agreement for loss of compensation for nuclear damage, or through the establishment of a public deposit.

Article 6 (Amount of Financial Security)

1. The amount of liability insurance for nuclear damage, of the indemnity agreement for loss of compensation therefor or of the deposit required pursuant to Article 5, Paragraph 2 shall be an amount, within the limit of liability stipulated in Article 3-2, determined by presidential decree (hereinafter referred to as "financial security amount"), taking into account the type of facility utilising nuclear energy, the characteristics of the nuclear fuel material to be handled therein and the potential consequences of a nuclear incident occurring at that facility.

2. Where the amount available for compensation of nuclear damage is less than the financial security amount required, due to the prior payment of compensation for nuclear damage, the Minister of Science and Technology may, if he deems it necessary to ensure that compensation will be paid, order the nuclear operator to restore the amount available for compensation of the nuclear damage up to the financial security amount within a designated period of time.

3. In the circumstances described in Paragraph 2 of this Article, the provision of Article 5, Paragraph 1, shall not apply.

Article 7 (Contract of Liability Insurance for Nuclear Damage)

1. A contract of liability insurance for nuclear damage (hereinafter referred to as "liability insurance contract") means a contract under which an insurer (a person who is authorised to engage in liability insurance in accordance with the Insurance Business Act) agrees to indemnify a nuclear operator for loss arising from compensation of nuclear damage resulting from specified causes and under which the nuclear operator agrees to pay a premium to the insurer, in case the operator becomes liable for the compensation of nuclear damage in accordance with the provisions of Article 3.

2. Any nuclear operator who wishes to enter into a liability insurance contract shall obtain the approval of the Minister of Science and Technology to the terms and conditions thereof.

Article 8 (Priority of Claims for Nuclear Damage)

1. A victim shall, with respect to his claim for nuclear damage, have priority over other creditors as regards receiving compensation provided by the liability insurance contract.

2. An insured may make a claim against its insurer for payment only up to the amount for which the insured has paid or for which consent has been acquired from the victim with regard to the amount of compensation.

3. The right to claim insurance proceeds under a liability insurance contract shall not be assigned, mortgaged, nor seized, provided however, that this shall not apply if the victim levies an attachment on his right to claim for nuclear damage.

Article 9 (Indemnity Agreement of Compensation for Nuclear Damage)

1. The indemnity agreement of compensation for nuclear damage (hereinafter referred to as "indemnity agreement") as specified in Article 5, Paragraph 2, in case the nuclear operator becomes liable for compensation for nuclear damage in accordance with Article 3, is the contract under which the Government agrees to indemnify a nuclear operator for loss arising from compensation for nuclear damage not covered by the liability insurance contract, and under which the nuclear operator agrees to pay an indemnity fee to the Government.

2. Matters concerning indemnity agreements shall be as provided for in other laws.

Article 10 (Priority of Claims for Indemnity)

The provisions of Article 8 shall be applied *mutatis mutandis* to the claim for indemnity.

Article 11 (Deposit)

The deposit, as a means of financial security, shall be made in the District Court having jurisdiction over the principal place of business of the nuclear operator, either in cash or in securities as determined by presidential decree.

Article 12 (Receiving from Deposit)

A victim may, with regard to his claim for nuclear damage, receive compensation from the cash or securities deposited by the nuclear operator.

Article 13 (Return of Deposit)

1. The nuclear operator may take back the deposited cash or securities, upon approval of the Minister of Science and Technology, in the following circumstances:

    1. an alternative financial security has been provided in lieu of the deposit, or

    2. operation of the nuclear reactor is terminated.

2. When the Minister of Science and Technology grants an approval pursuant to the provisions of Paragraph 1 of this Article, he may, to the extent that he deems it necessary for ensuring the payment of compensation for nuclear damage, designate the time and amount of the return.

Article 13-2 (Extinction, Prescription)

1. The right to make a claim for nuclear damage in accordance with this Act shall lapse by prescription if not exercised within three years commencing from the date on which the injured party or his agent by law becomes aware of such damage and of the identity of the person who caused it.

2. The right to make a claim for nuclear damage shall lapse by prescription if not exercised within ten years commencing from the date on which the nuclear incident occurred, provided however, that the right to make a claim for personal injury, disease or loss of life shall lapse by prescription if not exercised within thirty years commencing from the date on which the nuclear incident occurred.

Article 14 (Measures to be taken by the Government)

1. Where nuclear damage occurs, the Government shall give necessary assistance to a nuclear operator when the amount which the nuclear operator must compensate exceeds the financial security amount, and the Government deems such assistance necessary in order to fulfil the purposes of this Act.

2. The Government shall, where the proviso of Article 3, Paragraph 1, applies, take necessary measures to rescue victims and to prevent the increase of damage.

3. The assistance by the Government, prescribed in Paragraph 1 of this Article, shall be made within the limit authorised by the National Assembly.

Article 15 (Deliberation Committee of Nuclear Damage Compensation)

1. The Deliberation Committee of Nuclear Damage Compensation (hereinafter referred to as "Deliberation Committee") may be established under the Ministry of Science and Technology for the purpose of conciliating disputes arising from the compensation of nuclear damage.

2. The Deliberation Committee shall be in charge of the following affairs:

    1. conciliation of disputes, and

    2. investigation and assessment of nuclear damage necessary for carrying out the activities referred to in Subparagraph (1).

3. Matters necessary for the organisation and operation of the Deliberation Committee, as well as the conciliation of disputes, shall be provided for by presidential decree.

Article 16 (Reports and Inspection)

1. The Minister of Science and Technology may, if he deems it necessary, order a nuclear operator to present reports, or have relevant officials enter the offices, factories or sites of a nuclear operator (or a nuclear ship where such ship is powered by a nuclear reactor), to inspect the books, documents and other necessary objects or to ask questions of the persons concerned.

2. An official conducting an investigation or asking questions in accordance with the provisions of Paragraph 1 shall carry an identification card with him and present it if requested by persons concerned.

Article 17 (Consultation with Heads of Ministries and Agencies)

The Minister of Science and Technology shall consult with heads of ministries and agencies concerned when he intends to make an order pursuant to the provisions of Paragraph 2 of Article 6.

Article 18 (Exclusion of Application to the Government)

The provisions of Articles 5 to 13 shall not apply to cases where the Government is engaged in a nuclear undertaking.

Article 19 (Penal Provision)

A person who violates the provision of Article 5 shall be punished by imprisonment for not longer than three years, or by a criminal fine not exceeding 3 million won, or by both.

Article 20 (Fine for Negligence)

1. A person who commits any of the following acts shall be punished by a fine for negligence not exceeding 500 000 won:

    1. failing to make a report as provided for in Article 16 or making a false report;

    2. refusing, hindering or evading inspection, or failing to answer questions as provided for in Article 16 or giving false answers to questions.

2. The fine for negligence referred to in Paragraph 1 of this Article shall be imposed and collected by the Minister of Science and Technology in accordance with the presidential decree.

3. Any person who objects to imposition of the fine for negligence referred to in Paragraph 2 of this Article may file a complaint with the Minister of Science and Technology within thirty days after the day on which he becomes aware of such imposition.

4. If a person who is subject to imposition of a fine for negligence under Paragraph 2 of this Article raises an objection under Paragraph 3, the Minister of Science and Technology shall notify the competent court without delay which shall, upon receiving such notification, bring the case to trial under the Non-Contentious Case Litigation Procedure Act.

5. When an objection to the imposition is not raised within the period provided for under Paragraph 3 of this Article, and the fine for negligence is not paid, then it shall be collected by use of the means available for collecting national taxes that are in arrears.

Article 21 (Joint Penal Provision)

If a representative of a legal person, or an agent, servant or any other employee of a legal person, or an individual commits an offence provided for in Article 19 in connection with the business of such legal person or individual, the fine prescribed in the same Article shall be imposed on such legal person or individual, in addition to the punishment of the actual offender.

Article 22 (Report to the National Assembly)

In the event of large-scale nuclear damage, the Government shall report to the National Assembly without delay on the state of the damage and on the measures taken by the Government in accordance with this Act.

Addenda (16 January 2001)

1. (Enforcement Date) This Act shall enter into force on 1 January 2002, provided that the amended provisions of Paragraph 5 of Article 3 shall enter into force on 1 July 2002.

2. (Application Example Regarding the Compensation for Nuclear Damage) The amended provisions of Article 2, Article 2-2, Paragraphs 1, 4 and 5 of Article 3, Article 3-2 and Article 13-2 shall apply starting with the compensation amount for nuclear damage which resulted from the first nuclear incident after the date of enforcement of this Act.