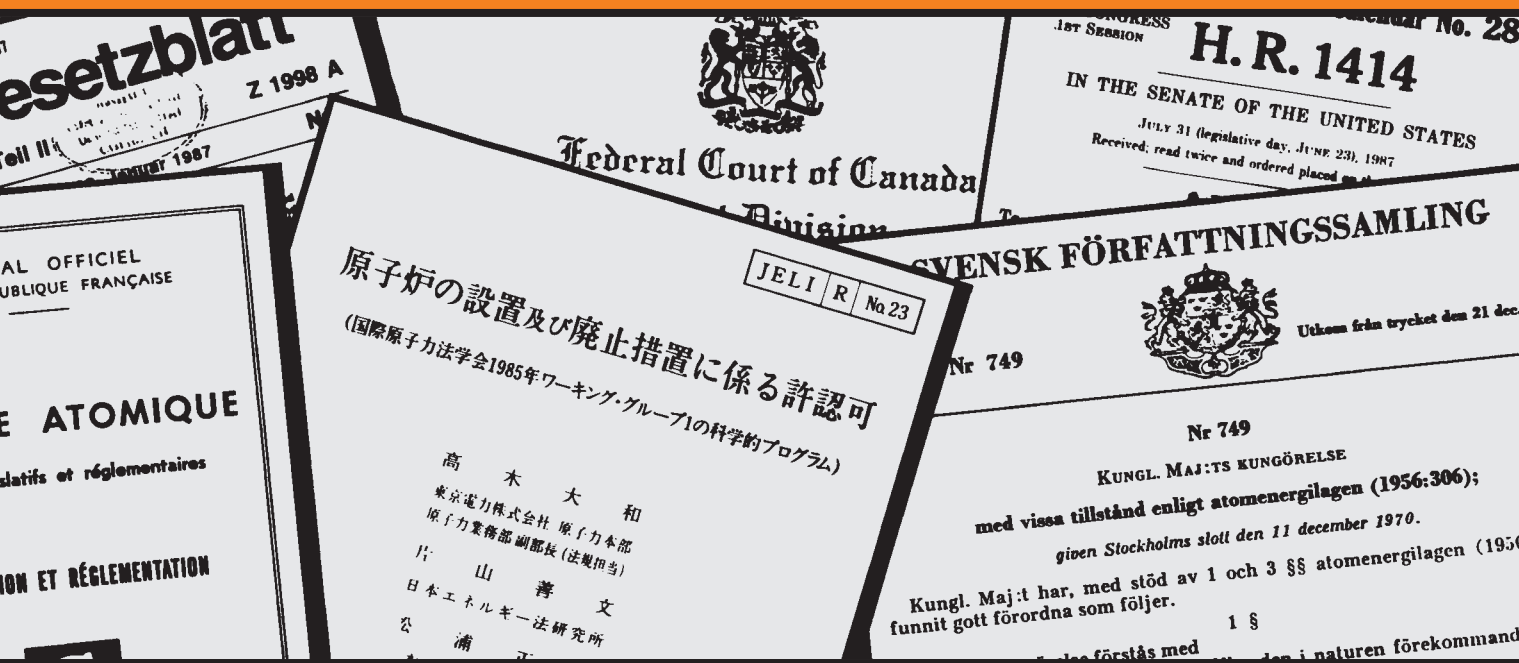




NUCLEAR LAW



BULLETIN 67

VOLUME 2001/1

NUCLEAR ENERGY AGENCY



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June 2001
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- 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.

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FOREWORD

This issue of the *Nuclear Law Bulletin* attests once again to the strengthening of the legal framework governing nuclear safety and radiation protection, both at domestic and international levels, in order to ensure a higher level of protection in these fields. It contains an article on the IAEA Code of Conduct on the Safety of Radiation Sources and the Security of Radioactive Materials. In the chapter entitled “National Legislative and Regulatory Activities”, the reader will also find information on the modernisation of nuclear safety and radiation protection legislation in different countries of Eastern Europe. We refer in particular to the analysis of the new Latvian Act on Radiation Safety and Nuclear Safety, the text of which is reproduced in the Supplement to this *Bulletin*, and the description of the Polish Atomic Energy Act.

Finally, on a more personal note, I have to report that this *Bulletin* will be the last in which one of its longest-serving editors will be involved. Amelia de Kageneck, who is leaving the Organisation, has many friends amongst *Bulletin* correspondents and readers, and I felt that an exception to our policy of editorial anonymity was justified in order to enable us formally to recognise her invaluable contribution in helping make the *Bulletin* what it is today and to express to her our warmest thanks.

Patrick Reyners

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The IAEA Code of Conduct on the Safety of Radiation Sources and the Security of Radioactive Materials

A Step Forwards or Backwards?

by Katia Boustany*

When considering all the work and discussions involved in progressing from the Conference of Dijon, held in September 1998, to finalisation of the Code of Conduct on the Safety and Security of Radioactive Sources** in July 2000, followed by its presentation to the IAEA Board of Governors and then to its General Conference in September of the same year, one cannot help being perplexed at the striking difference between the initial enthusiasm and subsequent reservations.

With a broad audience of 232 participants from 60 countries – including a significant number of senior managers from the private sector – and 20 participants representing international organisations, the Dijon Conference covered a vast range of topics related to concerns about the use of radiation sources and radioactive materials.¹

Thus, its conclusions² expressed a convergence of views on the current state of affairs in this field and on the specific means of resolving the problems, highlighted in particular as a result of different accidents the analysis of which made it possible to identify shortcomings of various origins;

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** The text of the Code of Conduct is reproduced in the chapter “Texts” of this *Bulletin*.

1. See the publication of the Proceedings of the Conference entitled: *Safety of Radiation Sources and the Security of Radioactive Materials, Proceedings of a Conference*, Dijon, France, 14-18 September 1998, IAEA, Proceedings Series, Vienna 1999, hereinafter referred to as *Proceedings of a Conference*. The Dijon Conference was held from 14 to 18 September 1998, and organised jointly by the European Commission, the International Atomic Energy Agency, the International Criminal Police Organization – INTERPOL and the World Customs Organization.

2. G.A.M. Webb, “Major Findings of the Conference”, in *Proceedings of a Conference*, op. cit., p. 364.

to the extent that the said conclusions, exactly as set out, were submitted in the form of a report, several days later, to the IAEA General Conference.³

In the Resolution adopted by the Agency's General Conference in the light of this document, the Secretariat was asked to prepare for the consideration of the Board of Governors a report on how national systems for ensuring the safety of radiation sources and the security of radioactive materials could be operated at a high level of effectiveness and – adopting the exact words of the last sentence of the remarks closing the Dijon Conference –

- “ii) whether international undertakings concerned with the effective operation of such systems and attracting broad adherence could be formulated”.⁴

This idea of international undertakings, to which the Code of Conduct owes its origin,⁵ seems to have dissolved in the course of the exercise. Moreover, the scope of application of the Code turned out to be significantly restricted and, consequently, its operative provisions also.

We shall endeavour to identify the main elements of such an outcome which, in the final analysis, is highly disappointing having regard to the importance of the issues involved.

I. A Code with Restricted Content

Already when issuing invitations to the Dijon Conference, its organisers had identified two “distinct but interrelated” subject areas:⁶ the prevention of accidents involving radiation sources and the prevention of theft or any other unauthorised use of radioactive materials – including measures for responding adequately to the illicit trafficking of these materials which was on the increase as a result of the upheavals in the last decade of the 20th century in Central and Eastern Europe and in the former USSR.

This dual methodological approach naturally led to the association, at a practical level and in the framework of the organisation and holding of the Conference, of representatives from different types of national (public and private) and international institutions, most of which were routinely involved either with safety or with security, but aware of the need to understand and manage in an appropriate fashion the complementarity which may exist between these two concerns.

In this respect, it is noteworthy that the Dijon Conference was the first to undertake a joint consideration of all of the aspects relating to the safety of radiation sources and the security of radioactive materials.⁷ As pointed out in the conclusions, the attention of the community of radiation

3. GC(42)INF/15, 21 September 1998.

4. GC(42)RES/12, paragraph 3.

5. For the background to the process leading to the drafting of the Code of Conduct, see the author's previous paper: Katia Boustany, “A Code of Conduct on the Safety of Radiation Sources and the Security of Radioactive Materials: A New Approach to the Normative Control of a Nuclear Risk?”, *Nuclear Law Bulletin*, No. 65, June 2000, p. 7.

6. See: *International Conference on the Safety of Radiation Sources and the Security of Radioactive Materials*, Dijon, France, 14-18 September 1998, First Announcement and Programme, <http://www.iaea.org/worldatom/thisweek/preview/1998meet/cn-70.html>.

7. G.A.M. Webb, “Major Findings of the Conference”, in *Proceedings of a Conference*, op. cit., p. 363. Note also, in the same publication (pp. 6-7), the inaugural remarks by the Director of the Division of

protection experts had, in the past, been focused on preventing accidents involving such sources; but the increase in incidents of illegal trafficking in the early 1990s led to a growing awareness of the problem of sources which, for various reasons, were outside the control systems.⁸

These two aspects, finally addressed from the same perspective of protecting against the harmful effects of radiation sources and radioactive materials, together presided over preparation of the main final recommendations of the Dijon Conference. On closer analysis, these can be seen to cover three series of substantive proposals which, in reality, are intended for three major categories of addressee: states, manufacturers and suppliers, and users.

For the attention specifically of source manufacturers, the text – without, however, referring to them expressly – emphasises that the risk of accidental exposure to radiation must be anticipated in such a way that “safety devices” and procedures are incorporated and that weaknesses in the design and construction of sources are corrected.⁹ These clear instructions are not included in the Code of Conduct itself which says simply that when implementing the Code, states should emphasise and reinforce to manufacturers their responsibilities for the safety and security of radioactive sources.¹⁰ Moreover, worded in a typically general fashion, this provision also applies to suppliers, users and those managing disused sources¹¹ – an amalgam which, since the respective responsibilities of these different types of operator are not specifically identified, is highly likely to end up being simply meaningless.

In a wider context, including manufacturers as well as the suppliers and users of sources – who are not expressly targeted either – the concluding remarks of the Dijon Conference essentially state that a sound safety culture must be promoted in such a way as to minimise human error by means of proper training. This safety culture concept was not included in the Code of Conduct in which only a provision as to appropriate levels of training for manufacturers, suppliers and users of radioactive sources survives, in the form of a requirement that regulatory bodies should impose.¹² According to

Radiation and Waste Safety of the IAEA, Mr. Abel J. Gonzalez: “It is surprising that after three quarters of a century of radiation protection, we are meeting together for the first time at an international level to foster the sharing of information on these two important topics. In its seventy years of existence, the International Commission of Radiological Protection (ICRP) has produced more than seventy publications with recommendations for protection against ionising radiation that have been followed by national and international organisations. However, only two – very recent – ICRP publications deal with the problem of the safety of radiation sources, and none has ever dealt with the issue of the security of radioactive materials. For the IAEA, the balance is similar. [...] It seems, I would like to suggest, that we were convinced that minimum requirements for safety and security were somehow automatically established and implemented. We all assumed, for instance, that all governments had radiation safety infrastructures in place which at least included a system of notification, registration, licensing and inspection of radiation sources.”

8. G.A.M. Webb, “Major Findings of the Conference”, in *Proceedings of a Conference*, op. cit., p. 363.
9. G.A.M. Webb, “Major Findings of the Conference”, in *Proceedings of a Conference*, op. cit., p. 363, paragraphs (2) and (2)(a).
10. *Code of Conduct on the Safety and Security of Radioactive Sources*, hereinafter referred to as the “Code of Conduct”, GOV/2000/34-GC(44)/7, Attachment 7, Article 6.
11. Article 6 reads as follows: “In implementing this Code, states should emphasise and reinforce to manufacturers, suppliers, users and those managing disused sources their responsibilities for the safety and security of radioactive sources”.
12. Code of Conduct, op. cit., Article 17(k). Article I.4 of Appendix I of the BSS provides: “Employers, registrants and licensees shall ensure, for all workers engaged in activities that involve or could involve

the definition in the BSS publication,¹³ however, the safety culture is much more than appropriate training which is only one component of

“The assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, protection and safety issues receive the attention warranted by their significance”.¹⁴

While it is true that the Code does not fail to make the ritual reference to the BSS,¹⁵ this does not seem to us to compensate for the omission relating to the safety culture which probably has to be attributed to the fact that this new normative tool deliberately targeted a single addressee: the state. Indeed, in his report on the second meeting¹⁶ of the Group of technical and legal experts responsible for drafting the Code of Conduct, the Chairman of the Group noted that it had discussed whether the Code should be addressed to states only or also to manufacturers, suppliers and users of radioactive sources. But the Group felt that, while certain provisions in the Code did in fact apply to manufacturers, suppliers and users, regulatory activities fell within the domain of states, and that therefore the addressees of the Code should be states.¹⁷

occupational exposure, that: [...] (h) suitable and adequate human resources and appropriate training in protection and safety be provided, as well as periodic retraining and updating as required in order to ensure the necessary level of competence; [...] (k) necessary conditions to promote a safety culture be provided”. This shows clearly that appropriate training is not the same thing as a safety culture, the objectives and procedures for which are laid down in the section of the BSS dealing with “Principal Requirements”, in Article 2.28, which provides: “A safety culture shall be fostered and maintained to encourage a questioning and learning attitude to protection and safety and to discourage complacency, which shall ensure that: (a) policies and procedures be established that identify the protection and safety of the public and workers as being of the highest priority; (b) problems affecting protection and safety be promptly identified and corrected in manner commensurate with their importance; (c) the responsibilities of each individual, including those at senior management levels, for protection and safety be clearly identified and each individual be suitably trained and qualified; (d) clear lines of authority for decisions on protection and safety be defined; and (e) organisational arrangements and lines of communications be effected that result in an appropriate flow of information on protection and safety at and between the various levels in the organisation of the registrant or licensee”. As can be seen, this provision asserts unambiguously that training is only one aspect among others of the safety culture.

13. BSS refers to the *International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources*, Safety Series No. 115, IAEA, Vienna, 1997.
14. *Ibid.*, Glossary, “Safety culture”, p. 354.
15. Paragraph 12 of the Preamble: “Noting that the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources contain recommendations for protection against exposure to ionising radiation and for the safety and security of radioactive sources”.
16. This meeting was held at the headquarters of the IAEA from 10 to 14 July 2000.
17. Report by the Chairman of the second meeting of the Group of technical and legal experts, Mr. S. McIntosh (Australia), set out in GOV/2000/34-GC(44)/7, Attachment 7, paragraph 4.

However, nothing obliged the Group of experts to deal with regulatory activities only. In reality, in the practice of international organisations – whether they are part of the United Nations family or not – the purpose of codes of conduct is usually to make up in part for the unwillingness of states to subject certain economic operators to legally binding rules, preferring to prepare a compendium of standards intended to incite conformity on a voluntary basis. In this perspective, a code of conduct has been defined as

“a set of principles and rules relating to the behaviour of certain international agents and incorporated into a single act or legal instrument adopted by states”.¹⁸

It has also been clearly stated that

“International agents whose behaviour has to be regulated may be states – traditional subjects of public international law – but also companies and private associations. Such as transnational enterprises or even natural persons”.¹⁹

And having regard to the examples of the most important codes of conduct²⁰ adopted during the last quarter of the 20th century, we are obliged to observe that

“Formally, a special feature of all codes is that they lay down rules applying both to states and to transnational companies. [...] The proportion of the rules applying to either states or transnational companies varies, sometimes substantially, from one code to another”.²¹

This all goes to show that there was a real opportunity to address the question of the safety of radiation sources and the security of radioactive materials in a global approach which would have concerned each of the parties sharing responsibility for the effective attainment of the objective in question: namely, on the one hand, states as regards their regulatory functions and, on the other, manufacturers, suppliers and users in their capacity as economic operators whose diligence in complying with the standards is vital for their effectiveness in relation to transactions, applications and management involving the sources and materials concerned.

18. A.-A. Fatouros, “*Le projet de Code international de conduite sur les entreprises transnationales : essai préliminaire d’évaluation*”, *Journal du Droit International – JDI*, No. 1-4, January-December 1980, 5-47, p. 6. The author notes (ibid): “They may be adopted in the form of an international convention, creating more or less detailed legal obligations for participating states. However, in most cases, more flexible forms are used (or are likely to be used), expressing a *general approval of standards which, although not strictly speaking binding, do have legal scope and effects*” (italics added; unofficial translation).

19. Ibid, p. 7.

20. On a world-wide basis: Code on Restrictive Business Practices, adopted in 1980 by Resolution 35/63 of the General Assembly of the UN; Guidelines or Code for Consumer Protection, adopted in 1986 by Resolution 39/248 of the General Assembly of the UN; International Code of Marketing of Breast-Milk Substitutes, adopted in 1981 by Resolution WHA 34-22 of the Assembly of the WHO; International Code of Conduct on the Distribution and Use of Pesticides, adopted by Resolution 10/85 of the General Conference of the FAO; on a non-world-wide basis: Declaration on International Investment and Multinational Enterprises of the Member countries of the OECD, adopted in 1976, including an annex containing Guidelines for Multinational Enterprises.

21. Nguyen Huu Tru, “*Les codes de conduite : un bilan*”, *R.G.D.I.P.*, T. XCVI, 1982, 45-60, p. 49.

Such an approach would not have been in contradiction – far from it – with the terms in which the Board of Governors requested

“the Director General to initiate exploratory discussions relating to an international undertaking in the area of the safety and security of radiation sources, it being understood that the international undertaking – which might take the form of a convention or some other type of instrument – should provide for a clear commitment by and attract the broad adherence of states”.²²

For, in the case of codes of conduct, the determination of states and their adherence are expressed through the conditions under which the normative instrument is adopted within the competent bodies of the organisation, in this case the Agency, which is responsible for drafting it. It is therefore highly regrettable that the Group of experts convened by the Secretariat of the IAEA chose to ignore the benefits of a wider normative dynamic and to concentrate solely on the regulatory activities of states.

Naturally, as appears from the conclusions of the Dijon Conference, setting up a regulatory authority with appropriate powers and resources for continuous control and monitoring of radiation sources and radioactive materials is indispensable if a sufficient level of safety and security, having regard to the risks involved, is to be ensured. Recent history provides examples enough of the dramatic consequences of the loss or absence of control over such sources and materials.

However, sticking in the rut of state regulation, as if this were the universal cure for all ills, is a sterile exercise: in a world in which the real capability of the apparatus of the state varies considerably from one country to another, where state structures sometimes collapse completely in a context of political destabilisation and armed conflict, the only possible back-up to failure by the state, should this arise, remains responsible action by the operators concerned, in this case the manufacturers, suppliers and users of radiation sources and radioactive materials. That is why it seemed to us important, from the outset, to include such actors in the normative prism of the code of conduct discussed here.²³

In particular, in the context of export and import of radiation sources, it is not difficult to anticipate the reluctance of the states of origin of the sources exported to assume any obligation when, clearly, the importing states should establish systems for licensing and control to ensure on their own territory the safety and security of the applications used there. In this respect, moreover, the report by the Chairman of the Group of experts indicates, not surprisingly, that the Group did not reach any agreement concerning any obligations of “exporting states” in this regard:²⁴ according to the Group, the main responsibility for the safe management of radioactive sources rested with the importing state,

22. GOV/1999/16, paragraph 6(d).

23. We take the liberty of referring readers once more to the author’s previous article, in this same *Bulletin*, already mentioned in note 5.

24. GOV/2000/34-GC(44)/7, Attachment 7, paragraph 6. The Group of technical and legal experts was composed of “representatives” – according to the term used by the Secretariat in this same document – of 16 Member States: Argentina, Australia, Austria, Canada, Cuba, Egypt, Finland, France, Germany, Greece, India, Republic of Korea, Russian Federation, Slovakia, Sweden, United States of America. Obviously, producer states were well represented.

which should consent to such an import only if it had the technical and administrative capability needed to manage the source in a safe manner.²⁵

In addition, the Group of experts considered that the proposal that states should create comprehensive national registries for radioactive sources under their jurisdiction was not practicable at this time and, consequently, the proposal that the Agency provide the platform for an international registry was also felt to be premature.²⁶ Thus, the Code of Conduct simply provides that each state should ensure that its regulatory body maintains appropriate records of holders of authorisations in respect of radioactive sources, with a clear indication of the type(s) of the radioactive sources that they are authorised to use, and appropriate records of the transfer and disposal of the radioactive sources on termination of the authorisation.²⁷

Lastly, on the ground that most accidents with serious consequences were caused by radioactive sources,²⁸ the Group of experts agreed that the Code should focus on radioactive sources defined as being

“radioactive material that is permanently sealed in a capsule or closely bonded and in a solid form, excluding material within the nuclear fuel cycles of research and power reactors”.²⁹

In the Code of Conduct itself, this exclusion is reflected in the definitions given in Article 7 to the expressions “radiation source” and “radioactive source”.³⁰ Nuclear materials as defined in the Convention on the Physical Protection of Nuclear Materials are also excluded from the application of the Code³¹ as are radioactive sources within military or defence programmes, which should, however, be managed in accordance with the principles of the Code.³²

Leaving aside the military and defence exception, we feel there is a sort of fragmentation of the regime of the safety of radiation sources and the security of radioactive materials which, almost inevitably and notwithstanding any measures taken elsewhere, could result in the creation of loop-holes. Yet the drafting of the Code could have been an opportunity for a systematic and coherent clarification of the standards and behaviour required, in different situations and hypotheses, in order to achieve the aims initially set. But, for all practical purposes, the option chosen leaves the most

25. Ibid.

26. GOV/2000/34-GC(44)/7, Attachment 7, paragraph 5. As regards the proposal for national registries, it should be noted that the report by the Chairman of the Group simply referred to “various reasons” for its not being included in the Code of Conduct.

27. GOV/2000/34-GC(44)/7, Attachment 7, Article 17(c).

28. GOV/2000/34-GC(44)/7, Attachment 7, paragraph 3.

29. GOV/2000/34-GC(44)/7, Attachment 7, paragraph 3.

30. GOV/2000/34-GC(44)/7, Article 7: “For the purposes of this Code: [...] ‘radiation source’ means a radiation generator, or a radioactive source or other radioactive material outside the nuclear fuel cycles of research and power reactors; ‘radioactive source’ means radioactive material that is permanently sealed in a capsule or closely bonded and in a solid form, excluding material within the nuclear fuel cycles of research and power reactors. It also includes any radioactive material released if the source is leaking or broken”.

31. GOV/2000/34-GC(44)/7, Attachment 7, Article 2.

32. GOV/2000/34-GC(44)/7, Attachment 7, Article 3.

important aspects of security outside the scope of the Code, in spite of the ambitions expressed in its title.

In any event, there is every reason to fear that this restrictive and state-oriented approach – not properly thought through, moreover – will compromise the hoped-for effects of such a normative tool.

II. A Code of Uncertain Scope

Conceived as a guide to states for the development and harmonisation of policies, laws and regulations on the safety and security of radioactive sources,³³ the Code of Conduct was to be submitted to the Agency's Board of Governors in terms significantly different from those in which the Board requested the Director General to initiate exploratory discussions relating to an "international undertaking".³⁴

In the Secretariat document proposing the action to be taken by the Board of Governors, this last expression was replaced by "exploratory discussions on a possible Code of Conduct on the Safety of Radiation Sources and the Security of Radioactive Materials".³⁵ This change was certainly not made in order to imply that the Code of Conduct could stand for an international undertaking, but simply to invite the Council to take note of the Code, to ask the Director General to circulate it to all states and relevant international organisations and to request the Director General to organise consultations on decisions which the Agency's policy-making organs may wish to take, in the light of the report of the Chairman of the Group of technical and legal experts, regarding the application and implementation of the Code of Conduct and to make recommendations thereon to the Board.

This extreme caution is probably the result of a debate within the Group of experts on the question of whether states should be recommended to submit to the Director General of the Agency unilateral declarations committing themselves to take the measures required to implement the Code's provisions.³⁶ According to the Group of experts, the actual Code should be an "incentive" document³⁷ which might or might not be complemented by binding legal undertakings; and since the mandate of the Group did not refer to the legal form of the international undertaking on which it was to conduct exploratory discussions, it was not for it to recommend any policy action to the states, this type of decision falling within the jurisdiction of the policy-making bodies of the Agency.

It has to be said that the position of the Group of experts on this issue is irreproachable and altogether in line with the order of respective competencies in the international organisational system. The problem seems to proceed from a confusion in certain minds between the expression "international undertakings" and international obligations. Thus, inasmuch as the states chose not to opt for

33. GOV/2000/34-GC(44)/7, Attachment 7, last paragraph of the Preamble.

34. GOV/1999/16, paragraph 6(d).

35. GOV/2000/34-GC(44)7, paragraph 14(g).

36. GOV/2000/34-GC(44)7, Attachment 7, paragraph 9.

37. It should be noted that this is precisely the term used in the Nuclear Safety Convention (1994) and by the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997). It might be thought that there is a pathological tendency to describe all instruments relating to safety in the nuclear field as being incentives – which would be serious – but it has to be admitted that the peculiarity of a code of conduct in international law is not to create legally binding obligations.

an international convention in the field of the safety of radiation sources and the security of radioactive materials, preferring a code of conduct – in other words a *soft law* normative instrument – the idea of finding a way in which the Code would nevertheless become binding upon them shows both great ingenuity and, above all, a profound disregard for international law and “her infinite variety”.³⁸

First of all, for a unilateral declaration by a state to produce any legally binding effect on it, such declaration must be made in circumstances indicating the state’s intention for this to happen. In this respect, the International Court of Justice clearly stated that

“not all unilateral acts imply obligation, but a state may choose to take up a certain position in relation to a particular matter with the *intention of being bound*”.³⁹

It is therefore difficult to understand how a series of unilateral declarations to be deposited by the states with the Director General of the Agency could have been envisaged given that the states, by deciding not to have recourse to a convention had precisely indicated their intention not to be bound, their wish not to undertake any legally binding obligations.

But above all, with respect to international law, the adoption of a code of conduct in itself constitutes an international undertaking, the nature and scope of which vary in accordance with the modalities of the act by which the states – acting as such or as members of an international organisation through its competent policy-making bodies – confer upon it normative status within the international legal order. Thus,

“The instruments concerned, although not legally binding, are not all of the same legal nature. Some are the resolutions of international organisations but the differences noted in the respective status of the bodies in question together with the negotiation procedures and adoption arrangements of the texts reveal that they do not all involve the same degree of political commitment by the states concerned”.⁴⁰

38. R.R. Baxter, “International Law and ‘Her Infinite Variety’”, *The International and Comparative Law Quarterly*, Vol. 29, October 1980, 549-566.

39. *Nuclear Tests Case (Australia v. France)*, 20 December 1974, ICJ, Rec. 1974, paragraph 44; italics added. One of the circumstances in question is the status and level of responsibility within the state of the person making the unilateral declaration. On this point, the case law of the International Court of Justice in the French Nuclear Tests case (paragraph 49) follows the precedent set by its predecessor, the Permanent Court of International Justice in the Eastern Greenland case: *Legal Status of Eastern Greenland*, 5 April 1933, PCIJ, Rec. 1933, p. 71. Other relevant circumstances include measures designed to make public the content of such a unilateral declaration, or to notify it to interested states, which was what happened in the French Nuclear Tests case (paragraphs 43, 50 and 51).

40. Nguyen Huu Tru, *op. cit.*, p. 47. The author illustrates his remarks (p. 48) by analysing various examples: “The text of the Code of Restrictive Business Practices was adopted by the Conference concerned and the very title of the Code seems to indicate an international agreement (principles and rules *agreed* at multilateral level); however, to denote the non-binding nature of the instrument, the Code was formally incorporated into a resolution of the General Assembly of the UN. The WHO Breast-Milk Substitutes Code reflects the firm support of Member States since although it was adopted by the Assembly in the form of a resolution, it is expressed in terms similar to those of a treaty (“The Member States hereby agree the following articles...”). The OECD Declaration is not legally an act of the Organisation since it expressly states that it is a Declaration by the Member countries. [...] It is not an act issued by an international entity without official power but a multilateral act resulting from the concurring wills of states with everything that that entails in terms of political and economic powers of

This does not at all mean that such undertakings have no effect in law or are not intended to have such effect. Indeed,

“It is hard to imagine that the representatives of states would devote so much energy and time to drafting these instruments if they were to remain mere scraps of paper. In truth, they do, as they are intended, produce effects in law”.⁴¹

How does this work? It is here that the extent of this “infinite variety” of international law can come into play, as analysed by Judge Baxter, whose penetrating observation of the diversification of the normative phenomenon in international relations led him to say:

“it is excessively simplistic to divide written norms into those that are binding and those that are not. Provisions of a treaty may create little or no obligation, although inserted in a form of instrument which presumptively creates rights and duties, while on the other hand, instruments of lesser dignity may influence or control the conduct of states and individuals to a certain degree even though their norms are not technically binding”⁴²

A similar opinion was expressed at almost the same time with regard precisely to a code of conduct:

“the problem of legal form becomes a false problem. The important thing to know and to ensure is the actual definitive effect of the code, to what extent it will affect, in the way intended, the behaviour of the agents to whom it applies. The legal form of an instrument is only one of the factors determining its repercussions on the real world. A text which takes the form of an international convention may not impose any real obligations on the parties if its provisions are couched in optional terms, using vague and general wording, or in such a way as to allow unlimited discretion to the states concerned [...]. On the other hand, even an instrument which is not binding in law may exercise real influence on the behaviour of the agents concerned, either because procedures have been envisaged to control the application thereof or because its provisions are precise enough to enable a judgment to be made as to whether any given behaviour complies with them”.⁴³

The conclusion to be drawn from this series of remarks, which we felt it was important to copy in full, is first of all that legal formalism is not necessarily relevant in the field discussed here when it comes to assessing the effectiveness of a normative tool or of a norm vis-à-vis the behaviour that it is supposed to be triggering. Three elements may be pointed out here: the effectiveness of a non-binding instrument depends on the adoption process, the existence of follow-up arrangements as regards its implementation, and the clarity of its provisions in identifying the behavioural results it is trying to achieve.

constraint. As a whole, the Declaration could be described as an agreement between Member countries, an agreement to which it was decided to give a purely political nature” (unofficial translation).

41. Alain Pellet, “*Le ‘bon droit’ et l’ivraie – Plaidoyer pour l’ivraie*”, in *Mélanges offerts à Charles Chaumont, Le droit des peuples à disposer d’eux-mêmes*, Paris, Ed. Pedone, 1984, 465-493, p. 490.
42. R.R. Baxter, “International Law and ‘Her Infinite Variety’”, op. cit., pp. 564-565. Let us not forget that the author was a professor of international law at Harvard University, and had been appointed a judge of the International Court of Justice in 1978.
43. A.-A. Fatouros, “*Le projet de Code international de conduite sur les entreprises transnationales: essai préliminaire d’évaluation*”, op. cit., pp. 33-34.

It is in this context that the question of the possible scope of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources arises.

The first observation to make is that the Code has in no way been submitted to a process for its adoption by the states within the policy-making bodies of the Agency. Indeed, both the Board of Governors⁴⁴ and the General Conference⁴⁵ do no more than, respectively, “take note” of the Code, invite Member States to do so and consider, as appropriate, means of ensuring its wide application.

As for the suggestion made to the Board of Governors to request the Director General of the Agency to organise consultations on decisions which might be taken by the policy-making bodies of the Institution concerning the application and implementation of the said Code, the least that can be said is that the opinions of the Member States on this point varied widely. Countries such as Japan,⁴⁶ the United Kingdom⁴⁷ and Finland,⁴⁸ saw no advantage in holding consultations on the Code, while Australia⁴⁹ and the United States⁵⁰ were in favour of so doing.

In addition, some states such as the Russian Federation,⁵¹ China and Sweden⁵² wished to emphasise the non-binding nature of the Code, and even to describe any contrary approach as premature.

This being said, the Board of Governors nevertheless adopted the suggestion relating to consultations, the conduct of which was entrusted to the Director General of the Agency. However, this cannot be compared to a follow-up mechanism which still seems beyond reach at the present time.

And although the provisions of the Code addressed to the states may be considered clear enough to obtain appropriate adjustments on their part with regard to the standards contained therein, the fact remains that important normative aspects concerning other addressees whose action has an impact on the effectiveness of such an instrument have been omitted, to say nothing of the various aspects of the field in question which have been excluded from its scope of application.

Moreover, it is noteworthy that at the same September 2000 meeting during which it took note of the Code of Conduct, the Board of Governors not only also took note of the Categorisation of

44. GOV/2000/34-GC(44)/7, paragraph 14(g).

45. GC(44)/RES/11, September 2000, paragraph 4.

46. GOV/OR/1011, October 2000, Record of the One Thousand and Eleventh Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 58.

47. GOV/OR/1011, October 2000, Record of the One Thousand and Eleventh Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 99.

48. GOV/OR/1012, October 2000, Record of the One Thousand and Twelfth Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 16.

49. GOV/OR/1011, October 2000, Record of the One Thousand and Eleventh Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 54.

50. GOV/OR/1011, October 2000, Record of the One Thousand and Eleventh Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 61.

51. GOV/OR/1011, October 2000, Record of the One Thousand and Eleventh Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 66.

52. GOV/OR/1012, October 2000, Record of the One Thousand and Twelfth Meeting, Held at Headquarters, Vienna, on Monday, 11 September 2000, paragraph 9.

Radiation Sources document but, in addition authorised the Director General of the Agency to issue it and the Secretariat to use it in discharging the Agency's statutory responsibilities with regard to the safety of the radiation sources under its control or supervision, particularly those used in Agency projects.⁵³ This means that the document in question takes on a value equivalent to that of the other normative safety instruments prepared by the Agency and approved by the Board of Governors, while no such thing was even envisaged or discussed in relation to the Code.

In fact, it is not possible at present to attribute any status whatsoever to the Code since the intention of the states, the Agency and its policy-making bodies remains extremely unclear. And, in the final analysis, saying that the Code is not legally binding is meaningless. So what now?

Conclusion

For the moment, this "what now" remains difficult to predict. It is tempting to agree with the question raised by some states: consultations, what for? – and, we are driven to add, to do what? Nevertheless, one would like to hope that such consultations could shed light on the intention of the different parties concerned in this respect and on the procedures for implementing the Code of Conduct.

In these circumstances, it is not easy to give an opinion as to whether the Code of Conduct constitutes progress in the field of the safety of radiation sources and the security of radioactive materials. What analysis reveals is rather that there are gaps in both the content of the Code and the processes relating to it. Nevertheless, new standards have been introduced as a result of this exercise and have thus, as an enactment of what constitutes appropriate behaviour in the field of the safety and security of radioactive sources, emerged into the arena of international relations. It has to be said that this is better than nothing. But it is not nearly enough.

However since we are dealing with contingencies, there is nothing to prevent us from hoping that future results will sweep away the inevitable scepticism born of the uncertainties of the present.

53. GOV/2000/34-GC(44)/7, paragraph 14(c).

The Ospar Convention and its Implementation: Radioactive Substances*

by Chantal Jarlier-Clément**

As the source of the increasingly topical “zero discharge” issue, the Convention for the Protection of the Marine Environment of the North-East Atlantic – otherwise known as the OSPAR Convention – is starting to exert growing influence on the conditions under which certain industrial facilities are licensed and operated, particularly with regard to discharges from such facilities to rivers and the sea.

In this respect, the vast amount of work that has been undertaken and new texts adopted since the Convention was signed have led to a number of misconceptions or inconsistencies.

It would therefore seem timely to take stock of the impact of what might best be referred to as the OSPAR “corpus”. This paper attempts to meet this objective by describing the main provisions of the OSPAR Convention (1) and the principal conclusions drawn from the meetings that have been held within its framework (2) with regard to the specific example of nuclear activities.

I. Main Provisions of the Convention

1. *Historical overview*

The OSPAR¹ Convention followed on from the Oslo and Paris Conventions. It may be recalled that the Convention for the Prevention of Pollution by Dumping from Ships and Aircraft, the Oslo Convention signed in February 1972, represented a major step forward in terms of official recognition of the hazards posed by pollution of the seas and oceans. A similar agreement, the Convention for the Prevention of Marine Pollution from Land-based Sources (transported by rivers or pipelines), known as the Paris Convention, was subsequently opened for signature in June 1974 and entered into force in 1978.

A meeting held in September 1992 between the two commissions responsible for administering the Oslo and Paris Conventions resulted in the merging and updating of the two conventions and the adoption of the Convention for the Protection of the Marine Environment of the North-East Atlantic, the OSPAR Convention, whose unifying and simplifying nature was heralded at the time in that all potential sources of pollution of the maritime area concerned were now covered by a single convention.

The OSPAR Convention, signed in Paris on 22 September 1992 and ratified by France on 29 December 1997, entered into force on 25 March 1998.

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1. OJEC No. C 172/1 of 07/07/95.

The Contracting Parties are Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the European Union.

2. *General features of the Convention*

It should first be noted that the Convention specifies from the outset, under Article 2 on general obligations, that the parties must comply with two principles already identified earlier in similar terms under international environmental law:

- the precautionary principle, which is defined separately in the Convention in the following terms: “preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects”;
- the polluter pays principle, by virtue of which the “costs of pollution prevention, control and reduction measures are to be borne by the polluter”.

Note should also be taken of the explicit reference in Article 3 to the use of best available techniques and “clean” technology in the implementation of programmes and measures aimed at meeting the objectives of the Convention.

Lastly, the right of access of the general public to information regarding the state of the maritime area and measures introduced in accordance with the Convention is formally laid down in the Convention (Article 9). Even though not identified as such, this right of access should be related to a more general principle, namely the right to information on the environment, which is starting to emerge with ever-increasing precision and clarity in international environmental law.²

Four annexes, which are an integral part of the Convention, cover specific domains. Annex I deals with the prevention and elimination of pollution from land-based sources; Annex II the prevention and elimination of pollution by dumping or incineration; Annex III the prevention and elimination of pollution from offshore sources; and Annex IV the assessment of the quality of the marine environment (the “quality status report” on the marine environment).

A fifth Annex was adopted at the ministerial meeting of the OSPAR Commission in 1998 which provides for measures relating to the protection and conservation of the ecosystems and biological diversity of the maritime area; it will enter into force once ratified by seven of the Contracting Parties.

With regard to its bodies, Article 10 of the Convention provides for creation of a Commission made up of representatives of each of the Contracting Parties. This Commission, which has a Secretariat based in London, superseded the Oslo and Paris Commissions. Responsible for administering the Convention and for drawing up strategies and international agreements in the areas covered by the Convention, the Commission is in fact the cornerstone for the monitoring and development of the Convention.

2. See in particular the Aarhus Convention of 25 June 1998 on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, and the draft Directive by the European Parliament and the Council of 29 June 2000 with regard to public access to information on the environment.

Article 11 of the OSPAR Convention provides for the participation of observers, including non-governmental organisations (NGOs), in the work of the Commission. Observers are admitted by unanimous vote of the Commission and do not have the right to vote.

Observer status has been granted to governmental organisations such as the Organisation for Economic Co-operation and Development (OECD), the European Environment Agency (EEA) and the International Atomic Energy Agency (IAEA), to mention but a few examples, and to non-governmental organisations such as Friends of the Earth, Greenpeace International, WWF, the International Union of Producers and Distributors of Electrical Energy (UNIPEDA) and the European Council of Chemical Manufacturers' Federations (CEFIC).

3. *The OSPAR Commission, the cornerstone for implementation of the Convention*

The OSPAR Commission, the executive body within which each of the Contracting Parties has one vote, plays a central role in the monitoring and updating of the Convention. Responsible for supervising the implementation of the Convention, and more specifically for drawing up programmes and measures for the prevention and elimination of pollution and for the control of activities which may adversely affect the maritime area, it has the power in particular, under certain conditions, to take legally binding decisions. It is also the body which allows the Convention to evolve, through the adoption of amendments to the Convention or its Annexes or Appendices.

3.1 Powers of the Commission

In accordance with Article 13 of the Convention, the Commission can adopt two types of instrument, of differing legal force, namely: recommendations, which cannot under any circumstances be binding on the Contracting Parties; and decisions, which may be binding but only under certain specific conditions. Thus a decision is binding on the expiry of a period of 200 days after its adoption for those Contracting Parties that voted for it and that have not within that period given notification that they are unable to accept the decision, provided that at the expiry of the period three-quarters of the Contracting Parties have either voted for the decision and not withdrawn their acceptance or given notification in writing that they are able to accept the decision. Furthermore, such a decision is binding on any other Contracting Party which has given notification that it is able to accept the decision.

Decisions and recommendations are subject to the same procedure and in principle must be adopted by unanimous vote; should unanimity not be attainable, and unless otherwise provided in the Convention, the Commission may nonetheless adopt decisions or recommendations by a three-quarters majority vote of the Contracting Parties.

3.2 Changes to the Convention: amendments and new Annexes

Under Article 16, any amendment to the Convention put forward by one of the Contracting Parties may be adopted by unanimous vote of the Commission. An amendment that has been adopted under this procedure enters into force for those of the Contracting Parties which have ratified, accepted or approved it, on the thirtieth day after receipt by France of the ratification, acceptance or notification by at least seven of the Contracting Parties. These provisions also apply to the adoption of most of the Annexes to the Convention.

3.3 Reports submitted to the Commission

Under Article 22 of the Convention, the Contracting Parties are obliged to report to the Commission at regular intervals on the measures or decisions taken by them for the implementation of the Convention and on the effectiveness of such measures and, where appropriate, any problems they may have encountered in implementing the provisions of the Convention.

On the basis of these reports, the Commission can call for steps to be taken to ensure full compliance with the Convention and the decisions adopted for its implementation.

II. Annual Meetings of the Ospar Commission

The OSPAR Commission held a meeting on 22 and 23 July 1998 in Sintra, Portugal. As the Convention had entered into force on 25 March 1998, this was the first meeting to be held within the framework of the new Convention. The main outcome of the meeting was the adoption of a “statement” which had no legal force but which was to lend political momentum to the action of the OSPAR Commission.

The second meeting opened on 26 June 2000 in Copenhagen and resulted in a fierce debate over the cessation of spent nuclear fuel reprocessing activities.

1. Main outcomes of the Sintra meeting

1.1 The main consequences of the work accomplished at the 1998 OSPAR meeting were, on the one hand, the adoption of an Annex V to the Convention, on the protection and conservation of the ecosystems and biological diversity of the maritime area covered by the Convention and a related appendix, and, on the other hand, a decision to eliminate disused offshore installations.

Furthermore, the Commission adopted strategies and an associated action plan for the period 1998-2003 with a view to setting out the directions for its work in the following four main areas: eutrophication, hazardous substances, the protection and conservation of ecosystems and biological diversity, and radioactive substances.

The strategy in relation to radioactive substances thus constitutes the guiding principle for the future work of the Commission in this area. It is based on the general premise of preventing pollution of the maritime area from ionising radiation through progressive and substantial reductions of radioactive discharges, with the ultimate aim of achieving concentrations in the environment near background values or close to zero, depending upon the type of radioactive substance concerned. It should be noted that account must be taken of technical feasibility and radiological impacts in achieving this objective.

In addition, new rules were introduced on the participation of non-governmental organisations in the work of the Commission in order to organise the involvement of such organisations in all the work of the Commission’s various bodies.

1.2 On 24 July 1998, the Environment Ministers of the Contracting Parties adopted – and it is this issue that has attracted the most attention from commentators – a statement now commonly referred to as the “Sintra statement”. This statement makes mention in particular of two measures, based on French proposals. Firstly, the reduction of discharges of hazardous and radioactive substances; and secondly, a ban on the dumping of steel installations from offshore oil rigs.

The Sintra statement, which was widely reported in the media, has since its adoption been frequently cited in discussions on the lowering of rates of discharge of radioactive substances. Often quoted out of context, the statement has also occasionally given rise to some contentious interpretations, for which, it is only fair to say, the verbose and opaque wording of the statement is partly to blame.

The first issue to be addressed is that of the legal character of the statement. This issue is one of major importance given the way in which some commentators have maintained a degree of ambivalence by tending to treat the Sintra statement either purely and simply as an amendment to the Convention, or as a decision by the Commission which, having been adopted unanimously, is therefore binding on all the Contracting Parties.

In fact, the Sintra statement is neither a recommendation nor a decision as described *supra*, and even less so is it an amendment to the Convention. It should be viewed simply as a policy commitment that is not legally binding.

The second issue relates to the scope of the Sintra statement and the objectives it sets out.

Although primarily referred to in debates over the reduction of radioactive discharges from nuclear installations, it should be noted that the Sintra statement is not restricted solely to radioactive substances but also addresses hazardous substances in general.

With regard to the latter, the stated objective is to prevent pollution by continuously reducing discharges in order to achieve concentrations in the environment of near background values for naturally occurring substances and close to zero for synthetic substances. In addition to this general objective there is also a statement of intent to work towards achieving the complete cessation of discharges by the year 2020.

The stated objective with regard to radioactive substances is apparently the same, namely to achieve, through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. Against this background, however, a number of issues need to be taken into account, of which technical feasibility and the radiological impacts to man and biota are by no means the least important.

At the same time, the statement also sets the objective of reducing radioactive discharges, by the year 2020, to a level where the additional concentrations resulting from the said discharges are close to zero.

In the final analysis, it appears from this series of provisions that the objectives that have been set, either in general or for the year 2020, are to achieve concentrations of artificial radioactive substances in the environment that are close to zero and not to achieve discharge levels that are close to zero. This objective must be met through a programmed reduction of radioactive discharges that takes account of criteria relating to technical feasibility and radiological impacts.

The concept of the impact of a discharge to man and to his environment would in this respect appear to be a major criterion in achieving the objective set, a criterion that must not be obscured through reference simply to the level of radioactive discharges or through reference solely to the notion of the concentration of radioactive substances.

2. *Conclusions of the Copenhagen meeting*

In addition to work on eutrophication, biodiversity and chemical substances used in offshore activities, the reprocessing of nuclear waste and discharges to the sea from nuclear reprocessing facilities were at the forefront of the discussions at the conference held on 26 to 30 June 2000 in Copenhagen.

Denmark and Ireland put forward draft decisions on the cessation of the reprocessing of spent fuel which, in view of their highly radical nature, met with major objections in principle, primarily from the French and UK delegations.

Discussions on the contested Danish proposal ultimately led to the adoption, by twelve out of the fifteen Contracting Parties, of OSPAR Decision 2000/1, a watered down version of the initial text, with regard to “substantial reductions and elimination of discharges, emissions and losses of radioactive substances, with special emphasis on nuclear reprocessing.” This text, which in practical terms was aimed at reducing permitted releases from the reprocessing plants at Sellafield and Dounreay in the United Kingdom and at La Hague in France in particular, stated that “current authorisations for discharges or releases of radioactive substances from nuclear reprocessing facilities shall be reviewed as a matter of priority by their competent national authorities”, with a view to, *inter alia*, implementing the non-reprocessing option (for example dry storage) for spent nuclear fuel management.

Neither France nor the United Kingdom voted in favour of OSPAR Decision 2000/1, nor did Luxembourg which was not present at the vote. This Decision is therefore not legally binding on these States, although Luxembourg will probably endorse it rapidly.

Apart from the Decision on reprocessing, other texts were finalised at the Copenhagen meeting but received less attention from the media. One example is the programme for the more detailed implementation of the OSPAR strategy with regard to radioactive substances,³ which although adopted unanimously, simply sets out general directions and which in practice is merely a more formal restatement of the progress report on this strategy.

Lastly, the Quality Status Report 2000 for the North-East Atlantic (QSR 2000) was presented at a press conference organised on 30 June 2000. This report emphasises the efforts that still remain to be made, notably with regard to releases of hazardous substances and nitrates.

While the speed with which this Convention was ratified and entered into force – a feat sufficiently unusual in international environmental law to be worthy of note – cannot but be applauded, the difficulties encountered at the vote on OSPAR Decision 2000/1 with regard to the reprocessing of spent nuclear fuel clearly illustrates the limits to the initial consensus.

There can be little doubt that the contentious issues mentioned above will resurface at forthcoming meetings of the Commission under the pressure of diverging interests in a context in which feelings often run high.

3. Strategy adopted at the Sintra meeting.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

Chinese Taipei

Objections to the decision to halt construction of the Lungmen NPP (2001)

Following the governmental Decision of October 2000 to halt construction of the fourth nuclear power plant in Chinese Taipei, the Lungmen Advanced Boiling Water Reactor project, the Parliament referred the matter to the Grand Council of Justices (Chinese Taipei's constitutional court), seeking a ruling that this Decision was unconstitutional because the Parliament, which had already approved the project and appropriated funding (5.5 billion dollars) for its achievement, should have been consulted.

The Grand Council of Justices ruled on 15 January 2001 that the Decision to suspend construction was procedurally flawed: the Cabinet cannot unilaterally halt projects included in the state budget, except in an absolute emergency, which was not the case here.

The Court returned the power of decision to the Parliament, which was to confirm or quash the government's original Decision. If the Decision were confirmed, the project would be definitively abandoned. On the other hand, if a consensus could not be reached between the legislature and the government, the government should accept the Parliament's position and either allow the project to continue or try to find a settlement through negotiations.

Following this ruling, the Parliament voted to quash the governmental decision to halt the project and construction work resumed.

Japan

Decision on construction of an additional unit at the Ikata NPP (2000)

On 15 December 2000, Matsuyama Lower Court rejected a claim filed by local residents living in the area around the Ikata nuclear power plant in Ehime Prefecture calling for retraction of the 1977 Government Decision allowing the utility Shikoku Electric Power Company, which operates the Ikata plant, to construct an additional unit on this site.

The plaintiffs requested that this Decision be quashed on the grounds that it was based on inadequate safety investigation, due to the existence near the reactor of an active undersea fault

capable of triggering a major earthquake. The Court admitted that the government had failed to take into account risks posed by the existence of this fault and therefore that the conclusions of the safety investigation were erroneous. It decided, however, that, on the basis of the scientific standards existing at the time of the original investigation, its conclusions could not be considered as unreasonable; in addition, it rejected the argument claiming that there would be a strong possibility of a major accident occurring due to inadequate accident prevention measures.

Supreme Court decisions rejecting applications to close down Shika and Onagawa NPPs (2000)

On 19 December 2000, the Supreme Court rejected two separate appeals in the Shika and Onagawa cases.

In the Shika case, an application was brought by nearly 200 persons, including local residents, against Hokuriku Electric Power Company, which operates the Shika NPP, to shut down Unit 1 of Shika NPP in Ishikawa Prefecture. In the Onagawa case, an application was brought against the operator of the Onagawa NPP, Tohoku Electric Power Company, by eight residents of Onagawa and nearby municipalities who requested the shutdown of Units 1 and 2 of Onagawa NPP in Miyagi Prefecture.

In both cases, the plaintiffs argued that their human and environmental rights were violated by the operation of these nuclear power plants. The Supreme Court dismissed both applications on the grounds that the plaintiffs' arguments were based on misunderstandings, further stating that they had no reason to appeal the lower court rulings.

ADMINISTRATIVE DECISIONS

Finland

Decision of the Council of State concerning the construction of a permanent repository for spent nuclear fuel (2001)

This Decision was made in the context of the application by a Finnish Company, *Posiva Oy*, to construct a permanent repository for spent fuel in the Municipality of Eurajoki. Following the rejection on 19 May 2000 by the Administrative Court of Turku of the claims introduced by local residents against the statement of this municipality in favour of this construction (see *Nuclear Law Bulletin* No. 66), the residents lodged an appeal before the Supreme Administrative Court. This Court upheld the decision of the lower jurisdiction. Accordingly, under the procedure set out in the Finnish Nuclear Energy Act (the text of which is reproduced in the Supplement to *Nuclear Law Bulletin* No. 41), the Council of State (*i.e.* the government) issued a positive decision concerning *Posiva Oy*'s application. Considering that the construction of this disposal facility is in line with the overall good of society, the Finnish Parliament ratified the Council of State Decision allowing this construction on 18 May 2001.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Australia

Protection of the Environment

Environment Protection and Biodiversity Conservation Act and Regulations (1999-2000)

The Environment Protection and Biodiversity Conservation Act (No. 91), adopted in 1999 and administered by the Commonwealth, establishes requirements for environmental impact assessment procedures in relation to seven matters of national environmental significance. One of these matters is the protection of the environment from “nuclear actions”. Under Section 22 of the Act, “a nuclear action” includes, *inter alia*, mining or milling uranium ore, transporting spent nuclear fuel, and establishing, significantly modifying, decommissioning or rehabilitating a research reactor. The Environment Protection and Biodiversity Conservation Regulations, issued on 5 July 2000 to implement the Act, define nuclear actions and installations by setting out the activity levels beyond which certain actions or installations are considered as nuclear actions or installations.

Under the Act, the proponent of a nuclear action must refer the proposal to the Commonwealth Minister for the Environment and Heritage who determines whether an environmental impact assessment is required, and if so, the level of the assessment. The proponent must not take the action unless it has been approved by the Minister, subject to any conditions placed on the approval. Section 140A of the Act specifically prohibits the Minister from approving actions involving the construction or operation of a nuclear fuel fabrication plant, a nuclear power plant, an enrichment plant, or a reprocessing facility.

Each of the Australian States and Territories has also enacted environmental impact assessment legislation; thus Section 45 of the Act provides for the conclusion of a bilateral agreement between the Commonwealth and any State or Territory to minimise the duplication of environmental assessment and approval procedures through Commonwealth accreditation of the State or Territory procedure (or vice versa).

Bulgaria

Radiation Protection

Basic Standards for Radiation Protection (2000)

These Standards were adopted by Decision No. 5 of the Council of Ministers on 10 January 2001 (Official Gazette of 16 January 2001). They take into account 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 of ionising radiation (see *Nuclear Law Bulletin* No. 58), and the 1996 IAEA Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources.

France

Regime of Nuclear Installations

Decree on the Standard Tax Charged on Polluting Activities Due from Operators of Installations Classified for Environmental Protection Purposes (2000)

This Decree No. 2000-1349 of 26 December 2000 was adopted in implementation of Sections 266, 6th addition (I, 8, b) and 266, 9th addition-8 of the Customs Code, which govern the standard tax on polluting activities due from operators of facilities where certain installations are subject to licensing under the legislation on installations classified for environmental protection purposes. The Decree sets out in an Annex a list of activities which pose particular risks to the environment, whether due to the nature or the volume of the activity. Each activity is attributed with a multiplication coefficient used to determine the amount of tax to be paid.

Facilities subject to these provisions include installations using radioactive substances as described in the following categories of installations classified for environmental protection purposes:

- 1710 – Preparation, manufacture, transformation and conditioning of radioactive substances, in the form of sealed or unsealed sources, which are not in compliance with the standards NF M 61-002 and NF M 61-003;
- 1711 – Deposit or storage of radioactive substances, in the form of sealed or unsealed sources, which are not in compliance with the standards NF M 61-002 and NF M 61-003;
- 1720 – Use, deposit and storage of radioactive substances, in the form of sealed sources, which are in compliance with the standards NF M 61-002 and NF M 61-003;
- 1721 – Installations using mobile equipment containing radioactive substances, in the form of sealed sources, which are in compliance with the standards NF M 61-002 and NF M 61 003.

The multiplication coefficient attributed to these activities varies from one to three depending on the total activity of the radioactive material used.

The following Decrees are repealed:

- Decree No. 72-1240 of 29 December 1972 establishing the Method of Collecting an Annual Tax from Certain Installations Classified as Dangerous, Insalubrious or Posing a Risk;
- Decree No. 73-361 of 23 March 1973 establishing the Method of Collecting a Standard Tax from Installations Classified as Dangerous, Insalubrious or Posing a Risk;

- Decree No. 93-1411 of 29 December 1993 setting out the List of Activities Subject to an Annual Tax Applicable to Certain Installations Classified for Environmental Protection Purposes.

Transport of Radioactive Material

Amendment of the Orders on the Transport of Dangerous Goods by Road and by Rail (2000)

The Orders of 5 and 6 December 1996 on the Transport of Dangerous Goods by Road and Rail respectively (referred to as the ADR and RID Orders) were again amended by Orders of 11 December 2000.

The principal amendments introduced into the ADR Order cover:

- the transport of waste from medical activities posing a risk of infection, or those assimilated to Category 6.2 (amendment of Sections 1-6, 11-2, introduction of a new Section 20 which takes effect as of 1 July 2001);
- the possibility for companies which have just recently commenced transport activities, to carry out under certain conditions the transport operations described in Section 25-1 (including the transport of radioactive materials) for a twelve-month period without holding a quality control certificate (Section 25-4);
- duration of basic training (Section 51-4);
- recipients designed for the transport of refrigerated liquefied gas (Section 60-5) and cisterns (Section 60-6).

The amendments made to the RID Order mainly concern the limits to parking time for the railway carriages (Section 17). To this effect, it is specifically stated that the parking of intermodal transport units carrying industrial packages, Category B(U) or B(M) type packages or Class 7 fissile material, is to be governed by specific provisions, as set out by the Ministers for Industry and the Environment.

Georgia

General Legislation

Law on Nuclear and Radiation Safety (1998)

This Law was adopted on 30 October 1998 and entered into force on 1 January 1999. It aims to protect the public and the environment from the harmful effects of ionising radiation. Under the Law, uses of nuclear energy are restricted to peaceful purposes. Consequently, the export, import, transit, and re-export of nuclear weapons and other nuclear explosive devices is prohibited, as is their production, study, testing and possession. It is similarly prohibited to construct and operate nuclear facilities with a capacity of over 5 MWe and to import radioactive waste into Georgia.

The Law sets out the following basic principles:

- the use of nuclear energy, nuclear material and any other ionising radiation source must not result in negative effects on public health or cause damage to the environment and to property;
- a licensee is required to compensate nuclear damage caused to human health, property and the environment;
- the physical protection of nuclear material, radioactive substances, know-how and related documentation must be ensured;
- emergency planning must be put in place;
- information on radioactive contamination of the environment, accidents or other emergencies must be accessible to the public;
- the principles of standardisation, justification and optimisation when using nuclear energy as well as minimisation of the negative effects of radioactive waste must be complied with;
- following a radiation accident, restoration measures must be taken.

The Law sets out the functions of various competent bodies in the nuclear and radiation safety field, but vests the Ministry for Protection of the Environment and Natural Resources with primary responsibility for protecting the environment and natural resources from the effects of radiation, ecological safety and nuclear and radiation-related activities. The Ministry is required, *inter alia*, to regulate nuclear and radiation safety; supervise physical protection systems; set up and monitor an accounting system and a state inventory of nuclear material, radioactive substances and other ionising radiation sources; establish emergency response plans; issue, suspend, and revoke licences for nuclear and radiation-related activities; and monitor radiation levels in the environment. To do so the Ministry has the right to inspect and monitor nuclear and radiation-related activities and to carry out any measurements required for their proper supervision.

The Law also provides for a licensing regime for nuclear and radiation-related activities. Licences for the construction, modification and operation of nuclear and radiation facilities include requirements for nuclear and radiation safety, on-site pre-treatment of radioactive waste or transport of such waste to a storage facility, and dismantling of the plant, equipment and instruments used at such facilities. Safety requirements cover siting, design, construction, and modification of the facilities. Construction and modification of facilities are subject to a feasibility study as well as a state expert appraisal of the project's safety. During the operation of nuclear and radiation facilities, the licensee is required to ensure safe working conditions and physical protection. The licensee must also prepare an emergency plan.

The Law sets out criteria for classifying a nuclear accident into one of the categories prescribed by the Law, these being in line with the INES scale. In the event of an accident, the licensee must take measures to ensure the protection of both workers and the public from radiation, and in particular it must inform the competent authorities of any increase in the activity level, provide medical assistance to those affected by the accident, minimise the release of radioactive substances into the environment, and provide compensation for damage to human health, property and the environment caused by the accident.

Regarding radiation protection, the Law sets the permissible annual dose limit at 1 millisievert (mSv) for the population and at 20 mSv for workers, subject to a permitted increase of the annual effective dose under certain conditions. The Law also requires licensees to plan and implement radiation protection measures, systematically control the release of radioactive substances into the environment and at workplaces, monitor and record the personal radiation doses of workers, provide radiation protection training and certification of managers and workers at facilities, submit workers to regular medical examinations and provide them with regular information on ionising radiation parameters and their personal radiation doses.

The Law further provides for the establishment of a state system of physical protection co-ordinated by the Ministry of the Environment and Natural Resources. Such a system aims to prevent illicit acquisition, possession, use, transfer, modification, destruction or dispersion of nuclear material, radioactive substances and other ionising radiation sources which could result in personal injury, damage to property or contamination of the environment. Nuclear material, radioactive substances and other ionising radiation sources are classified into three categories for the purpose of applying different levels of physical protection measures to them.

Regarding radioactive waste management, the Law provides that the operator of a radioactive waste processing facility has the right to receive, collect, transport, account for, pre-treat, process and dispose of radioactive waste. The collection, interim storage, preparation and transfer of radioactive waste, as well as its accounting are undertaken by the waste generator, which bears the cost of its transportation from its facility to the processing plant. The import, transit, export and re-export of any type of radioactive waste into or out of the country is prohibited.

Lastly, the Law grants rights to, and imposes obligations on, citizens and public organisations, particularly with regard to rights to information.

With a view to complementing the Law, it is expected that the following instruments will be adopted:

- a Law on the Transport of Radioactive Substances;
- a Law on Radioactive Waste Storage;
- a Decree on the Licensing of a Nuclear and Radiation-related Activity;
- a Decree on the State Inventory of Radioactive Substances and Waste;
- a Decree on the Register of Radioactive Waste;
- a Decree on Radiation Safety Standards.

An English version of the text of the Law on Nuclear and Radiation Safety is available from the Secretariat of the OECD Nuclear Energy Agency.

Germany

Radiation Protection

Amendments to nuclear legislation implementing Euratom Directives (2000)

By the Act of 3 May 2000 to Amend Nuclear Law Provisions to Implement Euratom Directives on Radiation Protection (*Bundesgesetzblatt* 2000 I p. 636; corrigendum p. 1350), several nuclear acts were amended. These amendments aim 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 of 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, and to repeal Council Directive 84/466/Euratom (see *Nuclear Law Bulletin* No. 60).

The Act amends the definition of “Radioactive Substances” in Section 2 of the Atomic Energy Act, and revises the provisions (Sections 11 and 12) which enable the government to issue relevant ordinances, in particular to amend the Radiation Protection Ordinance (see *Nuclear Law Bulletin* Nos. 16, 18, 19, 28, 44, 52 and 59). A new Section 12b of the Atomic Energy Act empowers the government to issue an Ordinance on the Control of the Reliability of Persons to Protect against Theft or Substantial Release of Radioactive Substances. There are consequential amendments to the provisions on administrative powers (Sections 23 and 24) and some minor drafting changes were made to the liability provisions [Sections 25(2) and 26(5)].

Other amendments affect the 1988 Act on the Establishment of a Federal Office for Radiation Protection (see *Nuclear Law Bulletin* Nos. 41, 43, 44 and 61) and the 1981 Ordinance on Nuclear Costs (see *Nuclear Law Bulletin* Nos. 29 and 51).

Third Party Liability

Amendment to the nuclear third party liability provisions of the Atomic Energy Act (2001)

On 5 March 2001, Parliament adopted the Ninth Act to Amend the Atomic Energy Act (*Bundesgesetzblatt* 2001 I p. 326). The new Act aims to implement the 1988 Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention at national level. The Act mainly contains drafting changes consequential to the ratification of the Joint Protocol by Germany, but changes of substance were made to Sections 26, 31(2) and 37(2). Section 26 deals with liability for damage caused by radioactive substances not covered by the Paris Convention. It provides for a regime of strict liability without limitation in amount. However, the person liable may be relieved from liability if he proves that he took all precautionary measures to prevent the damage (modified strict liability). A new paragraph 1(a) in Section 26 repeals that exoneration in cases where the damage is caused by radioactive substances which – if the Paris Convention or the Vienna Convention were applicable to such substances – would be considered as “nuclear fuel” or “radioactive products or waste” in the sense of those Conventions. Since such radioactive substances create the same risk as nuclear fuel or radioactive products or waste as defined in the Conventions, the person liable should not benefit from the exoneration rule but rather, should be held strictly liable in the same way as the person liable under the Conventions.

Section 31(2) deals with nuclear incidents occurring in Germany and causing damage in the territory of another state. According to the existing rule, the unlimited liability of a German operator only applies if the other state grants reciprocal benefits. While the amendment does not affect this general rule, it does make it clear that the German operator's liability is limited to the amount which the other state would have granted to victims in Germany, including funds provided for under international agreements on supplementary compensation, at the time of the incident. If damage occurs in a state where there is no nuclear installation, reciprocity is not required for compensation to be payable, but the liability of the German operator is limited to the maximum amount of compensation under the Brussels Supplementary Convention.

Section 37(1) establishes, in certain cases, the state's right of recourse vis-à-vis the liable operator with regard to indemnification granted pursuant to Section 34 of the Atomic Energy Act. A new paragraph 2 now entitles the state to such recourse irrespective of whether the prerequisites pursuant to paragraph 1 are met, if the operator is not of German nationality and does not have his domicile, principal place of business or permanent residence either within the territory of a European Union State, a Paris Convention State, a Vienna Convention/Joint Protocol State or any other state with which Germany has concluded an agreement on compensation for nuclear damage.

Regulations on Nuclear Trade

Amendment to the Foreign Trade Ordinance (2000)

The Foreign Trade Ordinance of 22 November 1993, last amended by the 50th Ordinance (see *Nuclear Law Bulletin* No. 65), was once again amended by four further Ordinances (*Bundesanzeiger* 2000 pp. 18577, 20625, 22945, 23585). The 51st to 54th amending Ordinances deal, *inter alia*, with embargoes and implement EC Regulations.

The Export List, last amended on 10 June 1999 (see *Nuclear Law Bulletin* No. 65), was replaced by the 97th Ordinance to amend such List – Annex AL to the Foreign Trade Ordinance (*Bundesanzeiger* 2000 p. 14653).

The Import List, last amended on 15 December 1999 (see *Nuclear Law Bulletin* No. 65), was replaced by the 141st Ordinance of 18 December 2000 to amend such List – Annex to the Foreign Trade Act (*Bundesanzeiger* 2000 p. 24069).

Food Irradiation

Ordinance on the Treatment of Foodstuffs with Radiation (2000)

On 14 December 2000 the Federal Ministry of Health issued an Ordinance on the Treatment of Foodstuffs with Electronic-, Gamma-, and X-Rays, Neutron- or Ultraviolet-Radiation (*Bundesgesetzblatt* 2000 I p. 1730). The Ordinance is based on the 1992 Foodstuffs and Consumers' Goods Act, as amended, (see *Nuclear Law Bulletin* No. 52). It aims at implementing Directive 1999/2/EC of the European Parliament and of the Council of 22 February 1999 on the approximation of the laws of Member States concerning foods and food ingredients treated with ionising radiation (see the chapter on "International Regulatory Activities" of this *Bulletin*), as well as Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic

solvents in certain activities and installations and Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of Member States relating to the labelling, presentation and advertising of foods.

Pursuant to Section 1 of the Ordinance it is generally permitted:

- to irradiate dried aromatic herbs and spices with electronic-, gamma-, and X-Rays as specified in Annex 1(1), provided that the prerequisites of paragraph 2 are met;
- to irradiate and treat food with neutron rays for control and monitoring purposes and within prescribed limits;
- to sterilise drinking water, the surface of fruits and vegetables and hard cheese during storage by direct radiation by ultraviolet-rays.

Special conditions apply to the marketing of irradiated dried aromatic herbs and spices and of foods containing such herbs and spices, which are imported from non-EC countries (Section 2). Irradiated herbs and spices have to be clearly labelled (Section 3). Installations for irradiation, as defined in Section 1(1) of the Act, may only be operated if licensed by the competent authority (Section 4). Operators of such installations are obliged to keep account of the entire procedure for irradiating food (Section 5).

The Ordinance entered into force on 15 December 2000 and replaced the former Foodstuff-Irradiation-Ordinance, last amended on 16 May 1975 (*Bundesgesetzblatt I* pp. 1281, 1859).

General Administrative Regulations on Radioactivity Limits in Food and Feeds (2000)

Pursuant to Article 85(2) of the Basic Law (Constitution), the Federal Government issued two General Administrative Regulations (*Verwaltungsvorschriften*) dealing with the control of food and feeds irradiated as a consequence of a nuclear incident.

The General Administrative Regulation of 22 June 2000 creates an administrative framework for the application of Council Regulation (Euratom) No. 3954/87 of 22 December 1987 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feedingstuffs following a nuclear accident or any other case of radiological emergency (*Bundesanzeiger* 2000, p. 12565). Its objective is to establish a binding and harmonised system for controlling the radioactive contamination of foods and feeds (Section 1), thereby ensuring the proper application of the Euratom Regulation.

A nearly identical General Administrative Regulation was issued on 28 June 2001 with a view to implementing this same Euratom Regulation (*Gemeinsames Ministerialblatt* 2000, p. 490).

Ireland

Food Irradiation

European Communities (Foodstuffs Treated with Ionising Radiation) Regulations (2000)

These Regulations were adopted as Statutory Instrument No. 297 on 20 September 2000. They implement Directive 1999/2/EC on the approximation of the laws of Member States concerning foods and food ingredients treated with ionising radiation, and Directive 1999/3/EC on the establishment of a Community list of foods and food ingredients treated with ionising radiation, both adopted by the European Parliament and the Council on 22 February 1999 (see the chapter on “International Regulatory Activities” of this *Bulletin*). The Regulations should be read together with these Directives.

The Regulations lay down general provisions for the treatment of food with ionising radiation. Any person proposing to carry on the business of irradiating food is required, in particular, to obtain both a licence from the Radiological Protection Institute of Ireland as well as a permit from the Food Safety Authority of Ireland. These bodies may attach any conditions which they deem appropriate to the licence or permit, which is issued for a period up to three years.

The Regulations also provide for the appointment of an authorised officer or inspector whose mission is to carry out examinations, tests, inspections and checks of the irradiation facility premises, any food, article or substance used in food irradiation, and any equipment, machinery or plant at the premises.

The Regulations refer to a positive list of foods authorised for treatment with ionising radiation and their maximum radiation doses, which are contained in Directive 1999/3/EC.

Japan

Regime of Nuclear Installations

Law for Nuclear Siting Area Development (2000)

This Law was adopted on 1 December 2000 and entered into force on 1 April 2001 for a ten-year period. Its purpose is to promote the development of nuclear power plant siting areas by providing, in particular, financial assistance. It also aims to mitigate the effects of a nuclear accident.

The Law provides for the establishment of a Nuclear Siting Council to be headed by the Prime Minister and composed of various other ministers. The Prime Minister is to designate siting areas after consultation with the Council and to make plans for siting areas development. These plans are to include the development of infrastructure, promotion of local industries such as agriculture, forestry and fisheries, and improvement of the living environment.

To support the development plans the Law provides for special measures, including granting additional subsidies for extensive projects aimed at developing and improving roads, railways and port facilities in areas surrounding the nuclear facility.

Republic of Korea

Third Party Liability

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

Act No. 2094 of 24 January 1969 on Compensation for Nuclear Damage (see *Nuclear Law Bulletin* No. 7), as amended (see *Nuclear Law Bulletin* No. 18), was once more amended by Act No. 6350 of 16 January 2001. The amending legislation will enter into force on 1 January 2002, except for certain provisions which will enter into force on 1 July 2002. This latest revision aims to reflect the principles contained in the Vienna Convention on Civil Liability for Nuclear Damage, as amended.

The main amendments introduced by Act No. 6350 are the following:

- Extension of the definition of “nuclear damage” [Section 2(1) of the Act as revised]: the new definition of “nuclear damage” is in line with the definition of this term as set out in the 1997 Protocol to Amend the Vienna Convention.
- Extension of the geographical scope of the Act (Section 2-2 of the Act as revised): the Act now applies to nuclear damage resulting from a nuclear incident occurring not only in the territory of the Republic of Korea but also in its exclusive economic zone. Another addition is the recognition of the reciprocity principle.
- Exonerations from liability [Section 3(1) of the Act as revised]: the Act no longer permits exoneration from liability where the damage results from a grave natural disaster. An operator may now only be exonerated from liability if the damage results from an act of armed conflict or hostilities amongst nations, civil war or insurrection.
- Introduction of the limited liability principle (Section 3-2 of the Act as revised): the Act introduces the principle of limited liability and sets out the operator’s liability amount at 300 million Special Drawing Rights (SDRs). Lower amounts of liability may be established by presidential decree.
- Increase in financial security limit [Section 6(1) of the Act as revised]: the operator is required to have insurance or other financial security for an amount at least equivalent to the liability amount.
- Establishment of prescription periods (Section 13-2 of the Act as revised): while the former Act did not provide for any prescription rules, the Act as amended states that a compensation claim may be presented within 30 years for personal injury, disease or loss of life and 10 years for the other types of damage from the date of the accident.

The text of this Act as revised will be reproduced in the Supplement to *Nuclear Law Bulletin* No. 68.

Latvia

General Legislation

Act on Radiation Safety and Nuclear Safety (2000)

The new Act on Radiation Safety and Nuclear Safety, which repeals and supersedes the Act of 1 December 1994 on the same subject (see *Nuclear Law Bulletin* No. 55), was adopted on 26 October 2000. Its purpose is not only to ensure the protection of people and the environment against the harmful effects of ionising radiation and to set out safety requirements for ionising radiation sources but, also to establish the rights and responsibilities of state bodies, physical persons and legal entities in the field of radiation protection and nuclear safety (Section 2).

The Act sets up a new, independent regulatory authority under the supervision of the Ministry of Environmental Protection and Regional Development (MEPRD), namely the Radiation Safety Centre (Section 4), together with an advisory body, the Radiation Safety Board (Section 8). The Radiation Safety Centre is charged with supervising and controlling radiation protection and nuclear safety on behalf of the state, co-ordinating technical assistance programmes in this field, issuing licences for activities involving ionising radiation sources, organising and co-ordinating the training of inspectors, managers and persons whose work involves such sources, establishing and updating databases on the exposure of workers and members of the public, ensuring the proper accounting of ionising radiation sources and ensuring emergency preparedness (Section 5). Radiation Safety Centre Inspectors may inspect premises where ionising radiation sources are used and if necessary, collect samples (Section 7).

The Radiation Safety Board is responsible for advising state and local government institutions and authorities, including the Radiation Safety Centre on issues related to radiation protection and nuclear safety and for promoting co-operation between various institutions to strengthen radiation safety (Section 8).

In addition to the Centre and the Board, the MEPRD ensures proper monitoring of radiation levels, the Ministry of Welfare carries out mandatory medical examinations of exposed workers and controls ionising radiation equipment, and the State Border Guards are charged with inspecting shipments of radioactive substances.

The new Act confirms the basic principles of radiation protection and nuclear safety contained in the 1994 Act: justification, optimisation and dose limitation, the obligation to maintain insurance against third party liability and occupational accidents and illnesses, and licensing (Section 3).

The Act establishes a two-pronged system of licensing, differentiating between special permits (licences) for commercial operations and permits for non-commercial operations. Both are issued by the Radiation Safety Centre (Section 11). The procedure to be followed by the Centre when issuing a licence for the operation or modification of an ionising radiation facility of state-level importance is set out in Section 12.

Under the Act, an operator is required to ensure radiation protection of exposed permanent and outside workers by, in particular, providing them with personal and collective protection and control equipment (Section 13) and to ensure physical protection of ionising radiation sources (Section 22). The manager, appointed by the operator to ensure effective protection of the workers and the

population, is required to *inter alia*: enforce safety measures to protect workers, members of the public and the environment against harmful effects of ionising radiation and prevent radiation accidents, inform the operator and the Centre of any accident with an effect on radiation and nuclear safety, ensure safe collection, isolation, storage, treatment and disposal of radioactive waste, accounting of radioactive substances, nuclear materials and other ionising radiation sources, and training and information of the workers (Section 14). The Act provides for information of the workers, the state bodies and the population on potential radiation accidents and measures to be taken to protect the public in such a situation (Section 15).

Activities involving ionising radiation sources must be carried out by trained workers meeting the requirements set out in the Act. Such workers must use proper protection equipment and conduct measurements of received doses (Section 17). Additional protective requirements apply to the employment of persons aged between 16 and 18 years, pregnant women and breast-feeding mothers (Section 18).

The Act also sets out requirements for the packaging, marking and supply of ionising radiation sources (Section 23).

While the former Act prohibited the import of radioactive waste, the new Act provides for certain exceptions to this principle of prohibition (Section 27).

Another feature of the 2000 Act is the increase of the civil liability amount of the operator for nuclear damage from 1 million to 80 million Latvian lats.* The operator shall be exonerated from his liability if the damage occurred as a result of *force majeure*, or intended actions or negligence of the victim (Section 29).

Under the new Act, the Regulations issued pursuant to the 1994 Act are to remain in force until the adoption of new regulations by the Cabinet of Ministers, but in any event for not more than one year after the entry into force of this Act. The new regulations are expected to cover, *inter alia*, the following topics:

- Accounting and Control of Radiation Exposures.
- Exemptions from Licensing.
- Radiation Protection.
- Procedures for Public Hearing.
- Radioactive Waste Management.
- Packaging and Marking of Ionising Radiation Sources.
- Disposal of Ionising Radiation Sources.

The text of the Act is reproduced in the Supplement to this *Bulletin*.

* This sum is equivalent to approximately 126 million SDRs.

Lithuania

Regime of Nuclear Installations

Resolution Approving the Decommissioning Programme for Unit 1, Ignalina NPP (2001)

Pursuant to the 2000 Law on the Decommissioning of Unit 1 at the Ignalina NPP (hereinafter INPP) (see *Nuclear Law Bulletin* No. 66), on 19 February 2001 the government issued Resolution No. 172 approving the decommissioning programme for Ignalina Unit 1. The Resolution empowers the Ministry of Economy to implement the programme, together with a Commission set up under Decree No. 231 of 29 February 2001 to co-ordinate the implementation of the INPP-related provisions contained in the National Energy Strategy. The programme consists of three stages: preparation for decommissioning (until 2004), preparation for dismantling of the facilities for long-term storage (from 2005 to 2010) and dismantling of facilities and buildings either immediately or after long-term storage (from 2011 to 2030-2080) respectively.

The programme aims, in particular, to ensure the safe maintenance of the INPP during the preparation for, and actual decommissioning of, Unit 1 and to mitigate any negative social and economic effects on Lithuania, the inhabitants of the region and the staff of the INPP as a result of the decommissioning.

The programme is *inter alia* financed from the International INPP Decommissioning Fund.

Luxembourg

Radiation Protection*

Grand-ducal Regulations on the Protection of the Public against the Risks Resulting from Ionising Radiation (2000)

The drafting of new Grand-ducal Regulations governing the Protection of the Public against the Risks Resulting from Ionising Radiation (adopted on 14 December 2000 and published in the Official Journal of 22 January 2001), designed to replace the Grand-ducal Regulations of 29 October 1990 on the same subject (see *Nuclear Law Bulletin* No. 48) and the Grand-ducal Regulations of 17 August 1994 prohibiting the Manufacture of and Trade in Fire or Smoke Detectors Containing Radio-elements (see *Nuclear Law Bulletin* No. 55) was rendered necessary following the repeal of the Directives establishing basic standards to protect the health of the public and of workers against the dangers resulting from ionising radiation, as last amended by Directive 84/467/Euratom, and their replacement with Council Directive 96/29/Euratom of 13 May 1996 (see *Nuclear Law Bulletin* No. 58).

It had become necessary to draft this new Directive in order to take into account the development of scientific knowledge in the field of radiation protection, reflected in particular in Recommendation No. 60 of the International Radiological Protection Commission (IRPC), but also to

* This information note was kindly submitted by Doctor Michel Feider from the Radiation Protection Division of the Luxembourg Health Directorate.

harmonise the basic standards of radiation protection applicable throughout the European Union with the international basic standards promulgated by the International Atomic Energy Agency (IAEA) in co-operation with the United Nations Organisation for Food and Agriculture (FAO), the OECD Nuclear Energy Agency (OECD/NEA), the Pan-American Health Organisation (PAHO), the International Labour Organisation (ILO) and the World Health Organisation (WHO).

The Grand-ducal Regulations of 29 October 1990 which themselves replaced the Grand-ducal Regulations of 8 February 1967 (see *Nuclear Law Bulletin* No. 1) had already reduced the annual dose limits for professionally-exposed workers and for the public to 10 mSV and 1 mSV respectively, in light of certain scientific conclusions.

In its new Directive, the Commission concurs with the dose limits applicable to the public in Luxembourg since 1990. However, the dose limit established by the Commission for professionally-exposed workers is twice as high as that applicable in Luxembourg since 1990. The Commission was of the opinion that the Member States should comply strictly with the terms of this Directive. However, the Court of Justice of the European Communities, following a judgement in a case between the Commission and Belgium, ruled that from a Community law point of view, it was perfectly acceptable for a Member State to establish more stringent limits than those set out in a Community Directive.

With the exception of this dose limit for professionally-exposed workers, these new Regulations are in conformity with the provisions of Directive 96/29/Euratom.

The most important changes and the main characteristics introduced by these Regulations are as follows.

The new Regulations make a distinction between practices and interventions. Practices include human activities which may increase exposure to radiation; interventions are human activities which prevent or reduce exposure to radiation in the event of a radiological emergency or in the case of exposure over a long period of time resulting from the consequences of a radiological emergency or from professional practices or activity carried out in the past. Thus, the concept of intervention is introduced into a legal instrument on the subject of radiation protection for the first time. The grand-ducal Regulations of 1990 did not refer to exposures caused by interventions.

Certain practices are exempt from the requirement to obtain a preliminary licence from the competent authorities. The Directive establishes a threshold (exemption level) for each radio-element, below which a licence for its possession or use is no longer compulsory. There are two reasons to exempt a practice from licensing requirements. One of these is where the practice in question only leads to minor exposure, even in the case of an accident. Another reason is that it is impossible to set up a suitable system of inspection and control which would allow a reduction in the individual or collective dose administered by these practices. The new Regulations retain these thresholds; however in order to avoid any abuse they also introduce a number of requirements which must be observed and provide that certain practices are subject to prior notification.

A threshold is introduced below which practices are exempt from declaration or notification requirements (exclusion level). In fact, the 1990 Regulations were ambiguous and did not clearly set out what was to be considered radioactive and what wasn't. It is necessary to clearly define the limits for the quantities of radioactivity which are to be considered as insignificant. The new Regulations do, however, introduce a catch-all provision stating that each practice which is excluded from the licensing or declaration regime may be either proscribed or made subject to licensing or declaration at a later stage if it does not comply with certain requirements.

Thresholds are also introduced below which radioactive substances or materials containing such substances may be released, recycled or reused (release threshold). These thresholds should not be confused with the exemption levels. The former only concern materials released, recycled or reused from installations subject to a licensing or declaration regime, *i.e.* substances which from the outset are subject to a control regime. The release thresholds established in this legislation are identical to those recommended by the German Radiation Protection Commission (*Strahlenschutzkommission – SSK*, volume 16, 1998) for unconditional release of radioactive substances or materials containing them. However, release, recycling and reuse are governed by quite restrictive criteria set out in Annex 2 of the Regulations.

According to the 1990 Regulations, establishments using radionuclides are classified according to radiotoxicity and activities carried out. This concept is no longer used in the 1996 Directive. However, the classification concept remains in force in the new Regulations as it has proved useful and adapted to the actual risks posed by use of radioactive sources used by facilities. The exemption level and multiples of this level are used now as criteria for the classification of establishments.

Pursuant to the new Regulations, licenses for low-activity sealed sources and, subject to certain requirements, modifications to existing licenses, are from now on to be delivered by the Health Directorate rather than the Minister for Health. The existing Regulations had proved to be rather impractical seeing as an establishment which wanted for example to replace a radioactive source by a less radiotoxic source of lower activity was required, under the 1990 Regulations, to commence a new licensing procedure. As a whole, the new Regulations will not change current practices very much, except for simplifying the licensing procedure for low-activity sources posing a low radiological risk.

The 1990 Regulations had not taken into account the dangers for workers professionally exposed to natural radioactive substances. The new Regulations acknowledge that certain exposures resulting from professional activities using natural sources of radiation are of sufficient importance to justify particular attention, or even protective measures.

The concept of “dose constraints”, introduced by the ICPR in relation to the optimisation of protection, was retained in the new Regulations. These dose constraints represent a ceiling for individual doses from a given source, practice or activity which could be considered as acceptable in the optimisation procedure applicable to such source, practice or activity. Dose constraints may be established and used by installations in order to optimise protection at the design or planning stage. Similarly, they may also be set out by the competent authorities during the optimisation process.

The other improvements, amendments and characteristics of these new Regulations are as follows:

- more stringent requirements concerning the information to be provided in a licensing application, in particular in relation to radioactive waste and accident prevention;
- more detailed provisions governing operations during manufacture, possession, use, treatment, handling and storage of substances, apparatus or installations capable of emitting ionising radiation;
- the provisions governing operations and the duties of heads of establishments, qualified experts and those responsible for physical protection have been reinforced;
- a national dosimetry registry has been established within the Radiation Protection Division of the Health Directorate and requirements have been set out in relation to its maintenance;

- relations with in-house medical services and with the in-house medical service division of the Health Service have been formally defined.

Grand-ducal Regulations relating to Foods and Food Ingredients Treated with Ionising Radiation (2000)

These Grand-ducal Regulations of 17 July 2000 aim to implement various instruments into the law of Luxembourg, including Directive 1999/2/EC of the European Parliament and of the Council of 22 February 1999 on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation and Directive 1999/3/EC of the European Parliament and of the Council of 22 February 1999 on the establishment of a Community list of foods and food ingredients treated with ionising radiation (see the chapter on “International Regulatory Activities” of this *Bulletin*).

The afore-mentioned Directives were drafted in order to reduce as much as possible the risk of distorting competition within the European Union, given that substantial differences exist in national legislation on the subject of the treatment of foodstuffs and ingredients by ionisation and on the conditions of such treatment.

These Grand-ducal Regulations set out limitations concerning the foodstuffs and food ingredients which may be treated with ionisation. The list set out in Annex IV to the Regulations deals only with dried aromatic herbs, spices and condiments of vegetal origin. Consequently, only those products expressly mentioned on the “positive” list may be treated by ionisation. The inclusion of these products on the list is justified by the fact that they are frequently contaminated or infested by living organisms and their metabolites, and which therefore could damage public health. Furthermore, such contamination or infestation may not be treated by a fumigant such as ethylene oxide due to the risk of poisonous residue.

The rules concerning the use of ionising radiation to treat foodstuffs take into account first the protection of human health, without however neglecting, within those limits fixed for health protection, the reality of economical and technical needs.

Mexico

Radiation Protection

Norm regarding Selection, Qualification and Training Requirements for Staff of a NPP (2000)

This Norm (NOM-034-NUCL-2000) was adopted on 21 July 2000 by the Ministry of Energy (Federal Official Bulletin of 4 September 2000). It sets out the education, training and experience requirements for personnel working at a nuclear power plant with the aim of minimising the risks posed by the use of nuclear fuel and by radioactive waste. It covers, in particular, requirements for operating personnel, the manager, the director, the supervisor of the nuclear installation, the operator of the reactor, and technical support staff. The Norm also sets out a training and re-education programme to be attended by the licensed personnel of a nuclear plant.

Radioactive Waste Management

Norm regarding Solid Residue as Radioactive Waste (2000)

This Norm (NOM-035-NUCL-2000) was adopted on 14 April 2000 by the Ministry of Energy and published in the Federal Official Bulletin on 19 May 2000. It sets out the criteria pursuant to which a solid residue containing radionuclides and produced by a radiation or nuclear installation will be deemed radioactive waste.

Mongolia

Non-Proliferation

Law on Nuclear-Weapons-Free Status and its Implementing Resolution (2000)

This Law, adopted on 3 February 2000, aims to preserve the territory of Mongolia free from nuclear weapons. Accordingly, it is prohibited to develop, manufacture or otherwise acquire, possess, have control over, store, transport, test or use nuclear weapons and to dump or dispose of nuclear weapons grade radioactive material or waste in the territory of Mongolia (Section 4).

The Law provides for both national and international verification of nuclear-weapons-free status through the National Security Council and the central administrative authority responsible for foreign affairs (Section 6), and in co-operation with relevant international organisations or by concluding international agreements (Section 7). In the event of an inconsistency between the Law and an international agreement to which Mongolia is a Party, the latter provisions shall prevail (Section 2.2).

Any person violating the Law will be required to pay compensation for damage caused to the interests of Mongolia, its population, the environment and property (Section 8).

Resolution No. 19, adopted on 3 February 2000 for the purposes of implementing this Law, empowers the government to take measures necessary to ensure the proper operation of stations located in Mongolia that are designed to monitor nuclear weapons testing, and to actively co-operate with other states and international organisations, including the International Atomic Energy Agency, to implement this Law.

The use of nuclear energy and technology for peaceful purposes, *i.e.* for mining, energy generation, medicine and research, requires a licence issued by the state administrative authority in charge of nuclear energy (Section 5).

English versions of the text of the Law and the Resolution are available from the Secretariat of the Nuclear Energy Agency.

Netherlands

General Legislation

Amendment to the Nuclear Energy Act (2000)

By Act of 13 December 2000 (published in the Official Gazette No. 30 of 2001), the 1963 Nuclear Energy Act (see *Nuclear Law Bulletin* Nos. 3-5 and 8) was made subject to several amendments which subsequently entered into force on 2 February 2001. The most important modifications are described below.

First, when a nuclear installation licence needs to be extensively modified, or when it has already been subjected to several modifications in the past, the transparency and legal security of the licensing process may become insufficient. To redress this situation, the amendments now permit the issuance of a so-called revision licence.

Secondly, under the previous Nuclear Energy Act, every licence had to be issued by six different ministers together. Under the revised Act, the responsibilities are now rearranged. The Minister for Housing, Spatial Planning and the Environment is now responsible for the environmental aspects of fissionable materials and of radioactive materials and equipment, and the Minister for Social Affairs and Employment is responsible for worker protection. Together, they are responsible for both legislation and licensing under the Nuclear Energy Act.

Norway

Radiation Protection

Act on Radiation Protection and Use of Radiation (2000)

Act No. 36 of 12 May 2000 on Radiation Protection and Use of Radiation, which entered into force on 1 July 2000, repeals and replaces Act No. 1 of 18 June 1938 on the Use of X-rays and Radium, etc. The purpose of this new Act, is to protect human health from the harmful effects of radiation and to promote the protection of the environment. The Act applies to the manufacture, import, export, transport, transfer, possession, installation, and use of radiation sources as well as to the handling and disposal of their waste. It also covers emergency planning and preparedness. More detailed administrative regulations are expected to be adopted pursuant to this Act.

Under the Act, the Ministry of Health and Social Affairs is the competent authority in matters of radiation protection. In this capacity, it is not only responsible for drafting legislation in this field but also for ensuring that work involving ionising radiation is properly carried out.

Pakistan

Organisation and Structure

Pakistan Nuclear Regulatory Authority Ordinance (2001)

This Ordinance, promulgated on 22 January 2001, establishes the Pakistan Nuclear Regulatory Authority as the independent authority in Pakistan responsible for controlling, regulating and supervising all matters relating to nuclear safety and radiation protection. The Ordinance also provides for civil liability for nuclear damage resulting from a nuclear incident.

Under the Ordinance, the Pakistan Nuclear Regulatory Board (PNRB) and the Directorate of Nuclear Safety and Radiation Protection (DNSRP) are dissolved and all of their assets, rights, powers, authorities, privileges, property, etc., are transferred to the new Authority.

Poland

General Legislation

*Atomic Energy Act (2000)**

Introduction

The new Atomic Energy Act was adopted on 29 November 2000 and will enter into force on 1 January 2002, with the notable exception of Chapter 13 on the President of the National Atomic Energy Agency, which entered into force 14 days after publication. This new and comprehensive legislation replaces the former Atomic Energy Act of 10 April 1986 (see *Nuclear Law Bulletin* No. 40), whose text was reproduced in the Supplement to *Bulletin* No. 43. It regulates all activities related to peaceful uses of nuclear energy and defines the role of the competent authority in the nuclear safety and radiation protection fields. It further identifies the operator's obligations and the principles of nuclear third party liability.

The 1986 Act required amendment for a number of different reasons:

- Since 1986, Poland has become a member of several international organisations and has acceded to conventions addressing issues related to atomic energy applications, requiring the revision of national regulations to comply with international standards. The major obligations in this area result from the Poland Association Agreement with the European Communities, which calls for the harmonisation of Polish legislation with that of the European Union.

* This note is based on the information which was kindly submitted to us by Ms. Magdalena Akonom, Director of the Legal and Organisational Department, National Atomic Energy Agency, Poland.

- Previously, there were no regulations governing the management of radiological emergencies resulting from accidents in nuclear installations or in facilities using ionising radiation sources.
- The 1986 Act does not cover activities involving exposure to natural ionising radiation enhanced by human activity.
- Certain organisational issues, important from a radiological protection viewpoint, were resolved by independent resolutions adopted in the Council of Ministers in the early sixties. Such resolutions are incompatible with the existing concept of sources of law.
- The Act needed to be adjusted to take into account constitutional requirements.

This Act aims furthermore to introduce principles laid down in the international legal instruments to which Poland is a Party or to whose principles it adheres, in particular those concerning radiological protection issues, namely:

- The Convention on Nuclear Safety;
- The Joint Convention on the Safety of Radioactive Waste Management and on the Safety of Spent Fuel Management;
- 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.

Comparison of the new Act with the 1986 Act

Chapter 1. General Provisions

The scope of application of the Act was extended and now includes activities involving exposure to natural ionising radiation enhanced by human activity, as well as activities undertaken during radiological emergencies or in the event of long-term exposure resulting from such an emergency [Sections 1(3) and (4)].

In light of the extension to the scope of application of the Act, new terms are defined.

Chapter 2. Licences addressing Nuclear Safety and Radiological Protection Issues

As already set out in the 1986 Act, the new Law provides that any person carrying out activities involving exposure to ionising radiation such as manufacture, use, transport, conversion, storage, or disposal of nuclear materials, radioactive sources, radioactive waste and spent nuclear fuel, or construction, commissioning, operation and decommissioning of nuclear facilities, is required to obtain a licence issued by the President of the National Atomic Energy Agency (NAEA). The licensing requirement is, however, extended in the new legislation to activities involving the intentional addition of radioactive material during the manufacture of medical products and the import and export of such products, and also the intentional administration of radioactive material to humans

and animals for the purpose of medical or veterinary diagnosis, treatment or scientific research [Section 4(1)].

There are now two authorities responsible for issuing licences: the NAEA President issues licences for all types of activities referred to in Section 4(1) [Section 5(2)] subject to one exception; whereas licences for the manufacture, purchase, commissioning and operation of X-ray devices emitting radiation up to 300 keV, used for medical purposes, are issued by the regional health inspector (in the case of Ministry of Defence units – a military health inspector) [Section 5(3)]. This division of responsibilities between the competent authorities also applies to the appointment of radiological protection inspectors and in relation to supervision of issued licences.

Chapter 3. Nuclear Safety, Radiological Protection and Employees' Health Protection

Persons conducting activities in these fields shall be responsible for compliance with nuclear safety and radiation protection requirements, in particular through the appointment of a radiological protection inspector (Section 7). All such activities shall be carried out in compliance with the principles of justification, optimisation and dose limitation [Sections 8, 9(1) and 14(1)] as was already provided in the 1986 Act. The new Act also governs exposure to ionising radiation for medical purposes, and provides that the Minister for Health shall establish requirements governing the safety of such exposure in regulations (Section 15).

An obligation to perform regular assessments of public exposure resulting from ionising radiation applications was also introduced (Section 24).

The new Law divides occupationally exposed employees into two categories (A and B), according to the level of their exposure (Section 17), and separates their workplaces into controlled and supervised areas (Section 18).

The Law regulates the exposure of persons beyond the specified dose limits when carrying out special tasks (Section 19) and during emergency interventions (Section 20). It further establishes the ionising radiation doses which may be received by individuals participating in such activities.

The obligations of the employer in respect of personnel employed to carry out tasks which involve occupational exposure have been established in order to protect the health of the personnel and to ensure that the protection of outside (contract) workers is equivalent to that of permanent staff (Section 29). The Law provides that the operator shall ensure health surveillance and personal protection of workers, in particular by providing them with dosimetric equipment (Section 26) and by organising periodic medical examinations (Sections 10 and 30). Occupational exposure assessment of workers shall also be performed through individual dose measurements or dosimetric measurements in the workplace (Section 17). Radiation workers are also required to possess the appropriate skills and qualifications and to complete preliminary and periodic training courses, organised by the operator, on nuclear safety and radiation protection (Section 11). Special protective measures are organised for category-A workers (Section 30).

Chapter 4. Nuclear Facilities, Chapter 5. Nuclear Materials and Chapter 6. Ionising Radiation Sources

The provisions of these Chapters remain relatively unchanged. Rules concerning the physical protection of nuclear materials have however been established in more detail. The Act also grants the

Council of Ministers with the power to establish detailed technical requirements for the laboratories using radiation sources and rules governing work involving such sources (Section 45).

Chapter 7. Radioactive Waste and Spent Nuclear Fuel

The Act sets out the principles governing the whole process of radioactive waste and spent nuclear fuel management. The Council of Ministers is empowered to issue specific regulations governing the different stages of this process. At all stages of its management, spent nuclear fuel constitutes a nuclear material and, as such, requires appropriate physical protection.

Chapter 8. Transport of Nuclear Materials, Ionising Radiation Sources, Radioactive Waste and Spent Nuclear Fuel

Regulations on import and export of such materials were introduced, together with the obligation to obtain the NAEA President's approval for import, export and transit of radioactive waste and spent nuclear fuel (Section 62).

Chapter 9. Surveillance and Inspection of Nuclear Safety and Radiological Protection (Chapter 10 of the 1986 Act)

The provisions governing activities related to the surveillance and inspection of nuclear safety and radiological protection conditions were not significantly changed. The roles of the NAEA President, the Chief Inspector and regulatory inspectors as regulatory bodies have been further specified.

The duties of the individual appointed to the post of regulatory inspector are also established (Section 65).

Chapter 10. Monitoring of the National Radiation Situation (new chapter)

The new Act provides that the NAEA President is responsible for the monitoring of the national radiation situation, carried out through the Centre for Radiation Emergencies established within the NAEA. On the basis of such assessment, the NAEA President shall inform the public of the situation, in particular in relation to radioactive contamination levels, both under normal circumstances and during radiation emergencies (Section 80).

Principles governing the financing of stations and units carrying out radioactive contamination measurements and other services acting for the purposes of such assessments were established, including provisions governing the relationship between them and their hierarchical structure, and details concerning the duties of the NAEA President in this field.

Chapter 11. Radiation Emergency Management (new chapter)

There was no legislation on this subject previous to the adoption of the new Act, which provides that, in the event of an emergency, the operator shall organise the confinement of the emergency site and shall immediately notify the NAEA President and other relevant authorities (Section 83). The Act

empowers the operator, the region's governor or the Minister for the Interior, depending on the type of emergency (on-site, regional scale or national scale), to take actions aiming to eliminate the threat or its consequences (Section 84), including intervention measures (Section 89). Such measures shall consist of temporary relocation, sheltering, administration of stable iodine, and bans or restrictions on contaminated food and water consumption (Section 90). Costs of intervention measures and those related to the elimination of radiation emergency consequences shall lie with the operator of the nuclear facility causing the emergency (Section 93).

Chapter 12. Civil Liability for Nuclear Damage (Chapter 9 of the 1986 Act)

The new provisions take into account the requirements of the Vienna Convention on Civil Liability for Nuclear Damage, which Poland ratified on 23 January 1990, and those of the Protocol to Amend this Convention, which Poland signed on 3 October 1997. The Act provides for the exclusive liability of the operator of the nuclear installation where a nuclear accident takes place or to which it is related, with the exception of damage caused directly by war or military conflict (Section 101). If an accident occurs in the course of transport, the operator remains liable, unless otherwise stipulated in a contract with the consignee [Section 101(2)]. The Act fixes the liability limit of the operator at 150 million Special Drawing Rights (Section 102) and requires that he obtain financial security. The amount and type of the financial security, and its attached conditions shall be established by the Minister responsible for public finances. The Act furthermore establishes rules relating to the distribution of funds (Section 103). Whereas personal injury claims are not subject to a prescription period, compensation claims for nuclear damage to property or the environment shall be extinguished ten years after the date of the nuclear accident or three years after the date upon which the person suffering nuclear damage had knowledge or should have had knowledge of the damage and of the identity of the person liable (Section 105).

Chapter 13. The President of the National Atomic Energy Agency

The new Act removes the distinction between the tasks of the NAEA President and those of the NAEA itself, based on the presumption that the prescribed tasks are assumed by an organisation rather than a person, which then implements them through its bodies.

The Agency President's tasks were updated in light of the changes which came about in the regulations issued after 1986 and the additional tasks included in the new Act.

Chapter 14. State-owned Public Utility "Radioactive Waste Neutralisation Plant"

Under the 1986 Atomic Act, the responsibility for radioactive waste management was borne by the NAEA. The Experimental Department for Radioactive Waste Neutralisation within the Atomic Energy Institute, supervised by the NAEA President, was responsible for resolving all technical and technological issues concerning waste.

Radioactive waste and spent nuclear fuel management activities shall now be performed by a public utility distinct from the NAEA: the Radioactive Waste Neutralisation Plant. This Plant shall be significantly subsidised from the budget of the Ministry for Economy.

Chapter 15. Penal provisions

Introduction of financial penalties instead of the existing penal provisions aims to reduce the time period between the occurrence of an irregularity and the punishment of the individual liable. The amount of the financial penalty is dependent upon the significance of the irregularity.

The text of this legislation will be reproduced in the Supplement to *Nuclear Law Bulletin* No. 68.

Spain

Regime of Radioactive Materials

Royal Decree on Activities Comprising the Front End of the Nuclear Fuel Cycle (1999)

Royal Decree No. 1464, which was adopted on 17 September 1999 and entered into force on 5 October 1999, liberalises activities relating to the production of nuclear fuel and substantially amends corresponding provisions contained in Royal Decree No. 2967 of 7 December 1979 on the Organisation of Activities in the Nuclear Fuel Cycle (see *Nuclear Law Bulletin* No. 25). The objective of this new Royal Decree is to regulate the front end of the nuclear fuel cycle, *i.e.* all stages before the use of nuclear fuel in a nuclear reactor, as well as to ensure the supply of electricity and the management of uranium until its final disposal.

Under the Decree, the National Uranium Undertaking (*Empresa Nacional del Uranio, Sociedad Anonima* – ENUSA) is authorised to engage in activities comprising the front end of the nuclear fuel cycle. The operators of nuclear installations are to ensure supplies of enriched uranium for a period of five years and are to store fresh nuclear fuel elements at their installations two months prior to refuelling. Operators shall also jointly constitute a stock of enriched uranium, up to the amount prescribed in the Ministerial Order issued on 17 April 2000.

Sweden

Third Party Liability

Amendment to the Nuclear Liability Act (2001)

The Nuclear Liability Act of 8 March 1968 (the text of this Law is reproduced in the Supplement to *Nuclear Law Bulletin* No. 33; see also *Nuclear Law Bulletin* No. 56) which establishes the liability of operators of nuclear installations pursuant to the Paris Convention on Third Party Liability in the Nuclear Field and implements the provisions of the Brussels Supplementary Convention, was amended again on 7 March 2001. The amendments entered into force on 1 April 2001.

The maximum amount of the operator's liability is increased from 175 to 300 million Special Drawing Rights (SDRs) per incident.

In addition, the Act has been amended so that the aggregate amount available for compensation of nuclear damage is raised from 3 billion Swedish krona (SEK) to SEK 6 billion (approximately SDR 545 million) per incident. This aggregate amount comprises the liability amount of the operator, the funds available under the Brussels Supplementary Convention and public funds which the state is required to provide according to the Act.

The Swedish Parliament also authorised the government to make a declaration in accordance with the Recommendation of the OECD Council on the application of the Brussels Supplementary Convention in the Field of Nuclear Liability, adopted by the Council at its 793rd Session on 26-27 November 1992.

Switzerland

Third Party Liability

Increase in the amount of nuclear third party liability insurance (2000)

By a Decision of the Federal Council of 4 December 2000, the Ordinance of 5 December 1983 on Third Party Liability in the Field of Nuclear Energy (see *Nuclear Law Bulletin* Nos. 23, 25, 29, 31, 33 and 49 and the Supplement to *Bulletin* No. 32) was again amended. This decision, which took effect on 1 January 2001, increases the amount covered by the Swiss Pool for Nuclear Insurance in respect of the private third party liability of nuclear installations from 700 million to 1 billion Swiss francs (CHF), plus CHF 100 million for interest and procedural costs.

As before, the Confederation provides insurance against extraordinary risks which private insurers are entitled to exclude from the cover they provide.

Ukraine

Organisation and Structure

Decree establishing the State Nuclear Regulatory Committee of Ukraine (2000)

On 5 December 2000, the President of Ukraine signed Decree No. 1303 on State Regulation of Nuclear and Radiation Safety, which was completed by a Presidential Order of March 2001. The Decree establishes the State Nuclear Regulatory Committee of Ukraine as the central executive authority for the regulation of nuclear activities in Ukraine. This new Committee, which is under the supervision of the Cabinet of Ministers, is an amalgamation of the former State Nuclear Inspectorate and the Nuclear Regulatory Department of the Ministry of the Environment and Natural Resources.

The Committee is empowered to establish criteria, requirements and conditions for the safe use of nuclear energy, to develop and promulgate safety rules and standards, to regulate the physical protection of nuclear installations and materials, radioactive waste and other ionising radiation sources, to issue permits and licences for conducting activities in the field of nuclear energy, and to monitor compliance with legislation governing nuclear and radiation safety.

United Kingdom

Non-Proliferation

Nuclear Safeguards Act (2000)

This Act, which was adopted on 25 May 2000, implements the 1998 Additional Protocol to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons. Under the Act, the Secretary of State may serve notice on any person requiring him to give the Secretary information for the purposes of the Additional Protocol. The Act also requires such a person to keep records of such information in his possession. The Secretary of State may make regulations aiming to identify persons who are in possession of information referred to in the Additional Protocol.

Where a person served with such a notice refuses or fails to give information required by the notice, or where there are reasonable grounds for believing that the Secretary of State is not in possession of all or any of the information specified, that any information may be found on any premises, or that a document is likely to be altered or destroyed, a duly authorised officer may enter the premises, if necessary by force, to search them. Powers of the authorised officer include the right to inspect anything and to sample any substance found on the premises.

The Act also secures the exercise of the IAEA's rights, in particular of the Agency inspector, under the Additional Protocol.

The text of this Act is available in English from the Secretariat of the Nuclear Energy Agency.

United States

Third Party Liability

Amendment to the Radiation Exposure Compensation Act (2000)

The Radiation Exposure Compensation Act (RECA) of 15 October 1990 (see *Nuclear Law Bulletin* No. 47) was amended by Public Law No. 106-245, approved by the President on 10 July 2000.

RECA provides for payment of compensation to individuals who contracted certain diseases due to unintended exposure to radiation resulting from the United States nuclear weapons testing programme. The Act sets out a list of conditions to be met for compensation and a list of compensable cancers. The 2000 Amendment of RECA aims to expand the eligibility requirements for getting such compensation. It expands individuals' eligibility for claims, including certain uranium miners or millers, and adds new types of cancers to those cancers already covered by RECA.

RECA, as amended, establishes a 100 million US dollars (USD) fund (Section 3) from which indemnification is to be paid on the following bases:

- USD 50 000 to an individual who was physically present in an affected area for a period of at least one year between 21 January 1951 and 31 October 1958 or for the month of July 1962 and contracted one of the specified cancers;
- USD 75 000 to an individual who participated onsite in a test involving the atmospheric destination of a nuclear device and developed leukaemia; and
- USD 100 000 to an employee of a uranium mine or mill in a designated State between 1942 and 1971 who was exposed to a defined dose of radiation and developed lung cancer or another respiratory disease associated with radiation.

Only these facts need to be demonstrated to the Department of Justice. The claimant is not required to prove that the disease was caused by exposure to radiation.

Initially, a claim under RECA had to be filed within 6 years from the date of enactment of the Act. The 2000 Amendment extended the time limitation to 22 years from the date of enactment of this Amendment (Section 8).

Regulations on Nuclear Trade

Amendments to NRC Export and Import Regulations (2000)

The Nuclear Regulatory Commission (NRC) amended its Regulations pertaining to the export and import of nuclear equipment and materials, codified at 10 CFR Part 110, (see *Nuclear Law Bulletin* No. 56). These amendments, which entered into force on 22 December 2000, aim to reflect in particular the US nuclear non-proliferation policies, the US reporting obligations to the International Atomic Energy Agency, agreements for co-operation in the peaceful uses of nuclear energy, the export control recommendations of the Nuclear Suppliers Group and Zangger Committee.

The obligation to give prior notification of shipments of material of Canadian and Australian origin is now extended to all shipments of material. A new provision also requires licensees to notify the NRC in writing at least 40 days before the export of foreign-origin nuclear material or equipment, and prevents shipment of the material or equipment until authorised to do so by a NRC officer.

The Amendment revises the list of countries to which exports may go under a general licence; such list now includes Bulgaria, Czech Republic, Latvia, Lithuania, New Zealand and Romania. The Amendment adds Sudan to the list of destinations embargoed by the United States and adds Belarus, Cyprus, Latvia, Slovenia and Turkey as new Nuclear Supplier Group members.

Amendment to NRC Regulations governing the licensing of special nuclear material (2000)

This Amendment, which entered into force on 18 October 2000, makes a number of changes to the Regulations governing domestic licensing of special nuclear material, codified in 10 CFR Part 70. The Amendment establishes performance requirements, requires licensees to perform an integrated safety analysis to identify potential accidents at the facility, and requires implementation of measures

to ensure that items relied on for safety are available and reliable. Although the Amendment requires safety bases to be maintained and changes to be reported to the NRC, it also allows licensees to make certain changes to their safety programme and facilities without prior NRC approval.

Licensees affected by this Amendment include those who are authorised to possess a critical mass of special nuclear material and are engaged in one of the following activities: enriched uranium processing; fabrication of uranium fuel or fuel assemblies; uranium enrichment; enriched uranium hexafluoride conversion; plutonium processing; fabrication of mixed-oxide fuel or fuel assemblies; recovery of special nuclear material; or any other activity involving a critical mass of special nuclear material which the NRC determines could significantly affect public health and safety or the environment.

Amendments to NRC Regulations governing the requirements for certain generally licensed industrial devices containing by-product material (2001)

The objectives of these Amendments, made to 10 CFR Parts 30 to 32 and which entered into force on 16 February 2001, are to allow the NRC to better track certain general licensees and the devices they possess, and to better ensure that such licensees are aware of and understand the requirements for the possession of devices containing by-product material. A generally licensed device usually consists of radioactive material, contained in a sealed source, within a shielded housing. The device is designed with inherent radiation safety features so that it can be used by persons with no radiation training or experience.

The Amendments include provisions for a registration process and set out a registration fee which applies to a limited number of general licensees. The reporting, record-keeping, and labelling requirements for specific licensees who distribute these licensed devices have also been modified.

Uzbekistan

Radiation Protection

Law on Radiation Protection (2000)

This Law, adopted on 31 August 2000, provides a legal framework for ensuring the protection of human life and health, property and the environment against the risks of ionising radiation (Section 1).

It sets out the three basic principles of radiation protection: dose limitation, justification and optimisation (Section 4).

Under the Law, the public has the right to be compensated for personal and material damage due to radiation, to receive full and objective information on the radiation levels in the environment and in consumer goods, and to participate in discussions related to radiation protection (Section 5). Special protections are granted to citizens living in territories where exposure to radiation would result in doses that are higher than the limits specified in the norms (Section 6).

The Cabinet of Ministers is responsible for ensuring radiation protection by regulating in respect of compliance with radiation protection requirements, licensing of activities involving radiation sources, certification of agricultural and food products, fodder, drinking water, building materials and dose measurement equipment, and the assessment of radiation contamination (Section 7).

The Agency on Safety in Industry and Mining, the Ministry of Health, the State Committee of Conservation of Nature and the State Customs Committee all have responsibilities for ensuring radiation protection. Production controls are carried out by the users of ionising radiation sources and social controls are imposed by non-governmental and non-commercial organisations as well as by private citizens (Section 8).

Research and development activities involving radiation, the design and manufacture of radiation sources, the construction and production of radiation equipment, mining, and the production, reprocessing, use, storage, transport, and disposal of ionising radiation sources are all subject to licensing (Section 10). Furthermore, the manufacture, storage and transport of raw foodstuffs, food products, and drinking water must comply with radiation protection requirements (Section 16). Isolation of radioactive waste during its storage and disposal must also be ensured (Section 21).

Radiation protection is ensured *inter alia* through the monitoring and control of personal doses received, by requiring compensation for damage caused by ionising radiation, by regulating the export and import of radiation sources, through medical supervision, by providing information to the public on radiation levels and radiation protection measures, and by clean-up of contamination following a radiation accident in the territories affected (Section 12). The users of radiation sources are required to: observe radiation protection requirements, develop and implement measures to ensure radiation protection, assess radiation levels at workplaces, in protected and controlled zones (Section 20), and at disposal facilities. Users must also monitor and record personal doses received by their personnel, carry out training programmes, inform their personnel of personal dose levels and radiation exposures at workplaces, and ensure medical monitoring of their personnel (Section 17).

Regarding emergency preparedness, operators are required to protect the public and the environment against the effects of a radiation accident by establishing a list of potential emergencies and their consequences, by preparing an emergency plan, and by providing the means for mitigating the consequences of a radiation accident (Section 23). In the event of a radiation emergency, users of radiation sources are required, *inter alia*, to take measures to protect workers and the public from the consequences of the accident, inform state bodies, provide medical assistance to victims, and prevent the release of radioactive substances into the environment (Section 24).

INTERNATIONAL REGULATORY ACTIVITIES

European Union

Food Irradiation Directives (1999)

On 22 February 1999, the European Parliament and the Council adopted Directive 1999/2/EC on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation and Directive 1999/3/EC on the establishment of a Community list of foods and food ingredients treated with ionising radiation. The deadline for Member States to implement these Directives under domestic law was set for 20 September 2000.

These Directives aim to mitigate differences between national laws relating to the treatment of foodstuffs by ionising radiation and its conditions of use.

Directive 1999/2/EC establishes the conditions which must be fulfilled for authorisation of the treatment of foodstuffs with ionising radiation. Irradiation must:

- be justified and necessary from a technological point of view;
- present no health hazard and be carried out under the conditions proposed;
- be of benefit to the consumer;
- not be used as a substitute for hygiene and health practices or for good manufacturing or agricultural practice.

In addition, food irradiation may be used only for the following purposes:

- to reduce the incidence of food-borne disease by destroying pathogenic organisms;
- to reduce the spoilage of foodstuffs by retarding or arresting decay processes and destroying spoilage organisms;
- to reduce the loss of foodstuffs by premature ripening, germination or sprouting;
- to rid foodstuffs of organisms harmful to plants or plant products.

Irradiation may only be carried out in approved irradiation facilities and by gamma rays from radionuclides ^{60}Co or ^{137}Cs , X-rays generated from machine sources operated at or below a nominal energy level (maximum quantum energy) of 5 MeV, or electrons generated from machine sources operated at or below a nominal energy level (maximum quantum energy) of 10 MeV.

Furthermore, any food irradiated as such or containing irradiated food ingredients has to be labelled.

Under the Directives, only dried aromatic herbs, spices and vegetable seasonings may be treated with radiation at the European level. However, a requirement was introduced in Directive 1999/2/EC that the Commission must forward a proposal by 31 December 2000 to complete the Community positive list of foodstuffs which may be treated with ionising radiation. Until this positive list is completed, Member States can maintain existing national authorisations for the irradiation of certain foodstuffs and can continue to apply existing national restrictions or bans.

AGREEMENTS

BILATERAL AGREEMENTS

Armenia – Russian Federation

Co-operation Agreement on the Peaceful Use of Nuclear Energy (2000)

This Agreement, which was signed by Armenia and the Russian Federation in September 2000, provides that both Parties shall co-operate in the following fields:

- design, construction and commissioning of new nuclear power plants, including those on the territories of other countries;
- improvement of safety and the technical and economic performance of nuclear power plants;
- nuclear power plant fuel supply;
- manufacture and supply of equipment, spare parts and materials for nuclear reactors;
- storage and reprocessing of spent nuclear fuel and other radioactive sources, including the accounting and control of nuclear materials;
- protection of the environment;
- personnel training;
- exchange of specialists and scientists;
- use of nuclear materials and technologies in medicine, industry and agriculture;
- export of electricity;
- development of fundamental and applied research in nuclear science and technology.

Austria – Switzerland

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

This Agreement was signed by the Government of Austria and the Swiss Federal Council on 19 March 1999 and it entered into force on 1 January 2001. It governs the reciprocal exchange of information in relation to events, nuclear programmes, experiments and legislation in the field of nuclear safety and radiation protection.

Czech Republic – Slovenia

Arrangement on the Exchange of Information in the Nuclear Field (2000)

On 18 December 2000, the Director of the Slovenian Nuclear Safety Administration and the President of the State Office for Nuclear Safety of the Czech Republic signed this Arrangement. On the basis of mutual interest, the Parties shall exchange topical reports concerning technical safety, documents on safety-related significant procedures and decisions, reports on operating experience, copies of regulatory standards, reports on important events, information in the field of emergency planning, etc. to the extent that they are permitted to do so under domestic legislation. The Arrangement also provides for periodical meetings.

The Arrangement is concluded for a period of five years unless extended for a further period of time by written notice of the Parties.

Estonia – Finland

Agreement on Early Notification of a Nuclear Accident or Radiological Emergency and on Exchange of Information and Experience in the Field of Nuclear Safety and Radiation Protection (1999)

This Agreement, signed by Estonia and Finland in 1999, aims to implement the 1986 Convention on Early Notification of a Nuclear Accident. Accordingly, it regulates the early notification of a nuclear accident or radiological emergency as well as exchange of information and experience on nuclear safety and radiation protection.

It states that the Parties shall immediately notify each other of accidents involving nuclear facilities or activities which cause a release of radioactive material resulting, in particular, in a transboundary release that could be of radiological safety significance for the other Party. The Parties shall also inform each other of events which may cause radioactive contamination of the environment or of measurements of abnormally high radiation levels, where such events or measurements justify the preparation and adoption of measures to ensure the safety of the public.

The Parties shall furthermore periodically inform each other of:

- the development of the peaceful uses of atomic energy and of their legislation and regulations on the safety of nuclear facilities and radiation protection;
- relevant experience gained through the construction and operation of nuclear facilities, measures on nuclear safety and radiation protection and measures to limit releases of radioactive materials.

France – United States

Agreement for Co-operation in Advanced Nuclear Reactor Science and Technology (2000)

The US Department of Energy and the French Atomic Energy Commission (*Commissariat à l'énergie atomique*) signed this Agreement on 18 September 2000. It establishes the basis for co-operation between the Parties in the field of advanced nuclear reactor engineering and scientific research and development. Co-operation may include the following:

- exchange of scientific and engineering information and results and methods of R&D;
- organisation of seminars or other meetings and technical visits;
- assignment of staff of one Party to the facilities of the other Party for participation in R&D, design, analysis or other experimental activities;
- exchange of materials and equipment for testing;
- exchange of technology and engineering drawings (including specifications of components and of industrial plants);
- joint projects in which the Parties agree to share work and costs.

Japan – United States

Agreement in the Field of Nuclear Technologies (2000)

This Agreement, signed by the US Department of Energy and the Japan Nuclear Cycle Development Institute on 22 August 2000, will remain in force for five years and may be extended or amended by agreement of the Parties. Co-operation will be carried out subject to the Agreement for Co-operation between the Government of the United States and the Government of Japan concerning Peaceful Uses of Nuclear Energy of 4 November 1987 (see *Nuclear Law Bulletin* No. 40) and may include *inter alia*:

- reactor neutronics analysis and experimentation, to include reactor and plant shielding and nuclear data;
- reactor and plant safety, including safety issues relating to foreign-designed reactors;
- fuels and materials, to include structural, component, absorber and circuit materials, and fuels which could tend to reduce or eliminate the production of materials directly usable in nuclear explosive devices;
- nuclear steam supply systems and their associated components, to include component and system design, instrumentation and control, thermal hydraulics analysis;
- quality assurance;
- economic and environmental considerations;
- reactor life extension, decontamination and decommissioning, including fuel treatment and storage;

- nuclear material transportation;
- irradiation, fissile material treatment and advanced nuclear technology;
- uses and management of depleted uranium; and
- applications of remote technologies to operational improvement, radiation exposure reduction and decontamination and dismantling.

Turkey – Ukraine

Agreement on Early Notification of a Nuclear Accident and on Exchange of Information on Nuclear Facilities (2000)

This Agreement was signed on 23 November 2000 by the Government of Turkey and the Cabinet of Ministers of Ukraine for an indefinite term. It aims to facilitate the early notification of nuclear accidents taking place in the territories of both Parties and to ensure the exchange of information on nuclear facilities.

The Agreement provides that in the event of a nuclear accident on the territory of one of the Parties which may result in a transboundary release of radioactive substances onto the territory of the other Party, or if the radiation monitoring system registers abnormally high radiation levels, the Party concerned shall immediately notify the other Party thereof and provide it with any available information.

The Parties shall inform each other of the operating conditions of their nuclear facilities, the list of which is published in an Annex, and communicate other technical information related to these facilities which may be used to evaluate the consequences of an accident at these facilities and to plan measures necessary for public protection.

The competent authorities for the implementation of this Agreement are the Turkish Atomic Energy Authority and the Ministry of the Environment and Natural Resources of Ukraine respectively.

Ukraine – United States

Implementing Agreement concerning the Ukraine Nuclear Fuel Qualification Project (2000)

This Agreement, which was signed by Ukraine and the United States on 5 June 2000, aims to establish a framework for co-operation between the Parties with regard to the Ukraine Nuclear Fuel Qualification Project. The Project consists of technical assistance in the area of operational safety enhancements and related issues dealing with commercial nuclear fuel diversification for Ukraine's VVER-1000 civilian nuclear power reactors in the following areas:

- equipment, documentation, computer codes for reactor core design, nuclear fuel safety analysis and licensing, and nuclear fuel utilisation;
- nuclear fuel assemblies; and

- performance-based training of Ukrainian technical personnel in nuclear fuel design, reactor core design, nuclear fuel safety analysis methodologies and licensing; nuclear fuel utilisation and project management.

The Agreement will remain in force for five years and may be extended for additional periods by written agreement of the Parties. All activities will be subject to and governed by the Agreement between the United States and Ukraine concerning Operational and Safety Enhancements, Risk Reduction Measures and Nuclear Safety Regulation for Civilian Nuclear Facilities in Ukraine signed on 25 October 1993 (see *Nuclear Law Bulletin* No. 53). Material transferred pursuant to the Agreement will be subject to the Agreement for Co-operation between the United States and Ukraine concerning Peaceful Uses of Nuclear Energy of 6 May 1998 (see *Nuclear Law Bulletin* No. 62).

The U.S. Department of Energy may provide the following types of assistance:

- transfer to Ukraine of technology for nuclear fuel design, reactor core design, nuclear safety analysis and licensing;
- design, licensing, manufacturing, shipment and engineering support leading to the supply of six nuclear fuel test assemblies for the reactor core of the South Ukraine Nuclear Power Plant (SU NPP) Unit 3 and for the supply of nuclear fuel for one reactor core reloading at SU NPP;
- post-irradiation visual examination of the six nuclear fuel test assemblies at the SU NPP site;
- training of Ukrainian technical specialists at U.S. contractor sites;
- assistance in setting up the Centre for Reactor Core Design.

MULTILATERAL AGREEMENTS

Status of Conventions in the Field of Nuclear Energy

1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Since the last update in *Nuclear Law Bulletin* No. 66, three countries, namely Australia, Sweden and Switzerland, have become Contracting Parties to this Protocol. Therefore, as of 18 April 2001, there are thirteen Parties to this Protocol.

1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage

Since the last update in *Nuclear Law Bulletin* No. 64, Latvia signed this Protocol and Argentina has become a Contracting Party to it. Therefore, as of 18 April 2001, there are three Parties to this Protocol.

1997 Convention on Supplementary Compensation for Nuclear Damage

Since the last update in *Nuclear Law Bulletin* No. 64, Argentina has become a Contracting Party to this Convention. Therefore, as of 18 April 2001, there are three Parties to this Convention.

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

Under Article 40 of this Convention (see *Nuclear Law Bulletin* No. 60), it shall enter into force on the 90th day after the date of deposit with the Depository of the 25th instrument of ratification, acceptance or approval, including the instruments of 15 states each having an operational nuclear power plant.

On 20 March 2001, Ireland became the 25th state to ratify the Joint Convention, thereby ensuring its entry into force on 18 June 2001. The 25 States Party to the Convention are set out in the table below.

This Convention, which is the first international instrument to deal with the safety of management and storage of spent fuel and radioactive waste, aims in particular to ensure that during all stages of spent fuel and radioactive waste management there are effective defences against potential hazards so that individuals, society and the environment are protected from the harmful effects of ionising radiation now and in the future, and to prevent accidents with radiological consequences and to mitigate their consequences should they occur during any stage of spent fuel or radioactive waste management.

The Convention establishes a binding reporting system for Contracting Parties to address all measures taken by each state to implement the obligations under the Convention. This includes reporting on national inventories of radioactive waste and spent fuel. Furthermore, a preparatory

meeting of the Contracting Parties shall be held not later than six months after the date of entry into force of this Convention.

Status of signatures, ratifications, acceptances, approvals or accessions

State	Date of Signature		Date of Deposit of Instrument	
Argentina	19 December	1997	14 November	2000 (ratification)
Australia	13 November	1998		
Austria	17 September	1998		
Belarus	13 October	1999		
Belgium	8 December	1997		
Brazil	31 October	1997		
Bulgaria	22 September	1998	21 June	2000 (ratification)
Canada	7 May	1998	7 May	1998 (ratification)
Croatia	9 April	1998	10 May	1999 (ratification)
Czech Republic	30 September	1997	25 March	1999 (approval)
Denmark	9 February	1998	3 September	1999 (acceptance)
Estonia	5 January	2001		
Finland	2 October	1997	10 February	2000 (acceptance)
France	29 September	1997	27 April	2000 (approval)
Germany	1 October	1997	13 October	1998 (ratification)
Greece	9 February	1998	18 July	2000 (ratification)
Hungary	29 September	1997	2 June	1998 (ratification)
Indonesia	6 October	1997		
Ireland	1 October	1997	20 March	2001 (ratification)
Italy	26 January	1998		
Kazakhstan	29 September	1997		
Korea, Republic of	29 September	1997		
Latvia	27 March	2000	27 March	2000 (acceptance)
Lebanon	30 September	1997		
Lithuania	30 September	1997		
Luxembourg	1 October	1997		
Morocco	29 September	1997	23 July	1999 (ratification)
Netherlands	10 March	1999	26 April	2000 (acceptance)
Norway	29 September	1997	12 January	1998 (ratification)
Peru	4 June	1998		
Philippines	10 March	1998		
Poland	3 October	1997	5 May	2000 (ratification)
Romania	30 September	1997	6 September	1999 (ratification)
Russian Federation	27 January	1999		
Slovak Republic	30 September	1997	6 October	1998 (ratification)
Slovenia	29 September	1997	25 February	1999 (ratification)
Spain	30 June	1998	11 May	1999 (ratification)

State	Date of Signature	Date of Deposit of Instrument
Sweden	29 September 1997	29 July 1999 (ratification)
Switzerland	29 September 1997	5 April 2000 (ratification)
Ukraine	29 September 1997	24 July 2000 (ratification)
United Kingdom	29 September 1997	12 March 2001 (ratification)
United States of America	29 September 1997	

International Atomic Energy Agency

Code of Conduct on the Safety and Security of Radioactive Sources*

The IAEA's Member States,

Noting that radiation sources are used throughout the world for a wide variety of beneficial purposes, *e.g.* in industry, medicine, research, agriculture and education,

Aware that their use involves risks due to radiation exposure,

Aware that these risks must be restricted and protected against through the application of appropriate radiation safety standards,

Aware that there have been a number of accidents with serious, even fatal, consequences during the use of radiation sources,

Recognizing that such accidents may have an adverse impact on individuals and on the environment,

Recognizing the importance of fostering a safety culture in all organizations and among all individuals engaged in the regulatory control or in the management of radiation sources,

Recognizing the need for effective and continuous regulatory control, both within States and in situations involving the transfer of radiation sources between States,

Noting that serious accidents have occurred during the use of radiation sources, in particular radioactive sources, as a result of ineffective, or lapses in the continuity of, regulatory control, or as a result of lapses in management control during extended periods of storage,

Recognizing that most of these accidents have been caused by the use of radioactive sources, including accidents involving orphan sources,

Recognizing that a number of States may lack appropriate infrastructure for the safe management of radioactive sources, and that consequently exporting States should take due care in authorizing exports,

* This Code of Conduct was not submitted to a process for its adoption by states within the IAEA bodies. The Board of Governors and the General Conference, in August and September 2000 respectively, simply “took note” of the Code, inviting Member States to do so and to consider means of ensuring its wide application.

Recognizing the need for technical facilities, including appropriate equipment and qualified staff, to ensure the safe and secure management of radioactive sources,

Noting that the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources contain recommendations for protection against exposure to ionizing radiation and for the safety and security of radioactive sources,

Recalling the IAEA's Safety Requirements document on Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety,

Taking account of the provisions of the Convention on Early Notification of a Nuclear Accident (1986) and of the provisions of the Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency (1986),

Taking account of the provisions of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997), in particular those provisions which relate to the transboundary movement of radioactive waste and to the possession, remanufacturing or disposal of disused sealed sources,

Recognizing the global role of the IAEA in the areas of nuclear and radiation safety and the safety of radioactive waste management and disposal, and

Taking account of the "Categorization of Radiation Sources" in the Annex to Attachment 3 to IAEA document GOV/2000/36/GC(44)/12,

DECIDE that the following Code of Conduct should serve as guidance to States for – *inter alia* – the development and harmonization of policies, laws and regulations on the safety and security of radioactive sources.

I. SCOPE AND OBJECTIVE

1. This Code applies to all radioactive sources that may pose a significant risk to health and the environment. In implementing this Code, States should give highest priority to those radioactive sources which pose the most significant risks, *i.e.* the radioactive sources belonging to Category 1 of the IAEA's "Categorization of Radiation Sources". However, in doing so, States should also devote appropriate attention to the regulation of radioactive sources other than those belonging to Category 1.
2. This Code does not apply to the control of nuclear materials as defined in the Convention on the Physical Protection of Nuclear Materials.
3. This Code also does not apply to radioactive sources within military or defence programmes. However, such sources should be managed in accordance with the principles of this Code.
4. The objective of this Code is to achieve and maintain a high level of safety and security of radioactive sources through the development, harmonisation and enforcement of national policies, laws and regulations, and through the fostering of international co-operation. In particular, this Code addresses the establishment of an adequate system of regulatory control from the production of radioactive sources to their final disposal, and a system for the restoration of such control if it has been lost.

5. This Code relies on existing international standards relating to legal and governmental infrastructure for nuclear, radiation, waste and transport safety and to the control of radioactive sources. It is intended to complement existing international standards in these areas.
6. In implementing this Code, States should emphasise and reinforce to manufacturers, suppliers, users and those managing disused sources their responsibilities for the safety and security of radioactive sources.

II. DEFINITIONS

7. For the purposes of this Code:

“authorization” means a permission granted in a document by a regulatory body to a legal person who has submitted an application to manufacture, supply, receive, store, use, transfer, import, export, transport, maintain or dispose of radioactive sources. The authorization can take the form of a registration or a licence.

“disused source” means a radioactive source no longer intended to be used for its original purpose.

“management” means all activities, administrative and operational, that are involved in the manufacture, supply, receipt, storage, use, transfer, import, export, transport, maintenance or disposal of radioactive sources.

“orphan source” means a source which poses sufficient radiological hazard to warrant regulatory control but is not under regulatory control, either because it has never been under regulatory control, or because it has been abandoned, lost, misplaced, stolen or transferred without proper authorization.

“radiation source” means a radiation generator, or a radioactive source or other radioactive material outside the nuclear fuel cycles of research and power reactors.

“radioactive source” means radioactive material that is permanently sealed in a capsule or closely bonded and in a solid form, excluding material within the nuclear fuel cycles of research and power reactors. It also includes any radioactive material released if the source is leaking or broken.

“regulatory body” means any body or bodies on which a State has conferred legal authority to regulate any aspect of the safety and security of radioactive sources, including legal authority to grant authorizations.

“regulatory control” means any form of control applied to facilities or activities by a regulatory body for reasons related to radiation protection or to the safety and security of radioactive sources.

“safety” means measures intended to minimize the likelihood of accidents with radiation sources and, should such an accident occur, to mitigate its consequences.

“security” means measures to prevent unauthorized access to, and loss, theft and unauthorized transfer of, radioactive sources.

III. BASIC PRINCIPLES

GENERAL

8. Every State should, in order to protect human health and the environment, take the appropriate steps necessary to ensure that the radioactive sources within its territory, or under its jurisdiction or control, are:
 - a) fit for purpose;
 - b) safely managed during their useful lives and at the end of their useful lives; and
 - c) not stored for extended periods of time in facilities not designed for the purpose of such storage.
9. Every State should establish an effective national legislative and regulatory system of control over the management of radioactive sources and over any other activity involving radioactive sources which entails a significant risk to individuals or the environment. Such a system should:
 - a) place the prime responsibility for the safe management of radioactive sources on the persons being granted the relevant authorizations;
 - b) minimize the likelihood of a loss of control;
 - c) provide for rapid response for the purpose of regaining control over sources that are no longer under control;
 - d) foster ongoing communication between the regulatory body and users; and
 - e) provide for its continual improvement.
10. Every State should ensure that appropriate facilities and services for radiation protection and safety are available to, and used by, the persons who are authorized to manage radioactive sources or undertake any other activity with radioactive sources within its territory. Such facilities and services should include those needed for:
 - a) searching for missing sources and securing found sources;
 - b) intervention in the event of an accident involving a radioactive source;
 - c) personal dosimetry and environmental monitoring; and
 - d) the calibration and intercomparison of radiation monitoring equipment.
11. Every State should ensure that adequate arrangements are in place for the appropriate training of the staff of its regulatory body, its customs officers, its police and the staff of other law enforcement agencies.
12. Every State should encourage bodies or persons likely to encounter orphan sources during the course of their operations to implement appropriate monitoring programmes to detect such sources.

LEGISLATION AND REGULATIONS

13. Every State should establish legislation and regulations that:
 - a) prescribe and assign governmental responsibilities for the safety and security of radioactive sources;
 - b) provide for the effective control of radioactive sources;
 - c) specify the requirements for protection against exposure to ionizing radiation; and
 - d) specify the requirements for the safety and security of radioactive sources.
14. Such legislation and regulations should include, in particular:
 - a) the establishment of a regulatory body whose regulatory functions are effectively independent of other functions if that body is involved in both the management of radioactive sources and in their regulation. This body should have the powers listed in paragraphs 15 to 17;
 - b) measures, commensurate with the risks, to protect individuals and the environment from the deleterious effects of radiation;
 - c) administrative requirements relating to:
 - i) the authorization of the management of radioactive sources; and
 - ii) the notification to the regulatory body, as appropriate, by an authorized person of actions involved in the management of such sources and of any other activity in relation to such sources which may engender a significant risk to individuals or the environment;
 - d) provisions for exemption, as appropriate, from these administrative requirements;
 - e) managerial requirements, in particular relating to the establishment of adequate policies, procedures and measures for the control of radioactive sources;
 - f) security measures to prevent, protect against, and ensure the timely detection of, the theft, loss or unauthorized use or removal of radioactive sources during all stages of management;
 - g) requirements relating to the verification of safety, through: safety assessments; monitoring and verification of compliance; and the maintenance of appropriate records; and
 - h) the imposition of appropriate penalties.

REGULATORY BODY

15. Every State should ensure that the regulatory body established by its legislation has the authority to:
 - a) establish regulations and issue guidance relating to the safety and security of radioactive sources;
 - b) require those who intend to use radioactive sources to seek an authorization, and to submit a safety assessment when one is deemed necessary in the light of the risks posed;
 - c) obtain any relevant information from an applicant for an authorization;
 - d) issue, amend, suspend or revoke, as necessary, authorizations for:
 - i) the management of radioactive sources; and
 - ii) any other activity involving such sources which may engender a risk to individuals or the environment;
 - e) attach clear and unambiguous conditions to the authorizations issued by it, including conditions relating to:
 - i) responsibilities;
 - ii) minimum operator competencies;
 - iii) minimum equipment performance criteria (including radioactive source requirements);
 - iv) requirements for emergency procedures and communication links;
 - v) work procedures to be followed;
 - vi) maintenance of equipment and sources; and
 - vii) the adequate management of disused sources, including, where applicable, agreements regarding the possible return of decayed/disused sources to a supplier;
 - f) obtain any relevant and necessary information from the holder of an authorization;
 - g) enter premises of authorized users to undertake inspections, according to established procedures, to verify compliance with regulatory requirements;
 - h) enforce regulatory requirements;
 - i) monitor, or request other authorized bodies to monitor, at appropriate checkpoints for the purpose of detecting orphan sources;
 - j) ensure that corrective actions are taken when a radioactive source is in an unsafe condition;

- k) provide, on a case-by-case basis, to the holder of an authorization and the public any information that is deemed necessary in order to protect individuals and the environment;
 - l) liaise and co-ordinate with other governmental bodies and relevant non-governmental bodies within the State, and also with international bodies and regulatory bodies in other States, in order to seek guidance, information and assistance relevant to the safe and secure management of radioactive sources; and
 - m) establish criteria for intervention in emergency situations.
16. Every State should ensure that its regulatory body:
- a) is staffed by qualified personnel; and
 - b) has the financial resources and the facilities and equipment necessary to undertake its functions in an effective manner.
17. Every State should ensure that its regulatory body:
- a) establishes procedures for dealing with applications for authorization;
 - b) ensures that, before the receipt of a radioactive source is authorized:
 - i) arrangements have been made for its safe management once it has become a disused source; and
 - ii) financial provision has been made for its safe management once it has become a disused source;
 - c) maintains appropriate records of holders of authorizations in respect of radioactive sources, with a clear indication of the type(s) of the radioactive sources that they are authorized to use, and appropriate records of the transfer and disposal of the radioactive sources on termination of the authorization;
 - d) establishes systems for ensuring that, where practicable, both radioactive sources belonging to Categories 1 and 2 of the IAEA's "Categorization of Radiation Sources", and their containment, are marked with an appropriate sign to warn members of the public of the radiation hazard, but where this is not practicable, at least the containment is so marked;
 - e) establishes systems for ensuring that, where practicable, radioactive sources belonging to Categories 1 and 2 of the IAEA's "Categorization of Radiation Sources" are identifiable and traceable;
 - f) ensures that inventory controls are conducted on a regular basis by the holders of authorizations;
 - g) carries out both announced and unannounced inspections at a frequency determined by past performance and the risks presented by the radioactive source;

- h) takes enforcement actions, as appropriate, to ensure compliance with regulatory requirements;
- i) ensures that the regulatory principles and criteria remain adequate and valid and take into account, as applicable, operating experience and internationally endorsed standards and recommendations;
- j) requires the prompt reporting by authorized persons of loss of control over, and of incidents in connection with, radioactive sources;
- k) prescribes appropriate levels of training for manufacturers, suppliers and users of radioactive sources;
- l) requires authorized persons to prepare appropriate emergency plans;
- m) is prepared, or has established provisions, to recover orphan sources and to deal with radiological emergencies and has established appropriate response plans and measures;
- n) is prepared, in respect of any radioactive source whose export it has authorized, to provide, upon request, information relating to its safe management.

IMPORT AND EXPORT OF RADIOACTIVE SOURCES

- 18. Every State intending to import a radioactive source belonging to Categories 1 and 2 of the IAEA's "Categorization of Radiation Sources" should consent to its import only if the State has the technical and administrative capability needed to manage the source in a manner consistent with the provisions of this Code.
- 19. A State should allow for re-entry into its territory of disused radioactive sources if, in the framework of its national law, it has accepted that they be returned to a manufacturer qualified to receive and possess the disused radioactive sources.
- 20. Any State which authorizes the export of a radioactive source should take appropriate steps to ensure that such export is undertaken in a manner consistent with existing international standards relating to the safe transport of radioactive materials.

ROLE OF THE IAEA

- 21. The IAEA should:
 - a) continue to collect and disseminate information on laws, regulations and technical standards relating to the safe and secure management of radioactive sources, develop and establish relevant technical standards and provide for the application of these standards at the request of any State, *inter alia* by advising and assisting on all aspects of the safe and secure management of radioactive sources; and
 - b) in particular, implement the measures approved by its governing bodies, including pursuant to its Action Plan on the Safety of Radiation Sources and the Security of Radioactive Materials.

DISSEMINATION OF THE CODE

22. Every State should inform public and private organizations and persons involved in the management of radioactive sources, as appropriate, of the measures it has taken to implement this Code and should take steps to disseminate that information widely.

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

ALGERIA	Mr A. CHERF, Head, Regulation Department, Radiation Protection and Safety Centre
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ARMENIA	Mr A. MARTIROSYAN, Armenian Nuclear Regulatory Authority
AUSTRALIA	Ms M. HUXLIN, INIS Information Officer, Australian Nuclear Science and Technology Organisation
BANGLADESH	Mr A. IMMAN, Deputy Attorney General for Bangladesh
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LATVIA

Act on Radiation Safety and Nuclear Safety*

adopted on 26 October 2000

Chapter I

GENERAL PROVISIONS

Section 1

Terms used in the Act

The following terms are used in the Act:

- 1) **practices involving ionising radiation sources** – human activities (manufacturing, import, export, transport, sale, transfer, lease, acquisition into possession or use, storage, repair and other similar activities, except for exposure in cases of emergency), which may increase the exposure of workers or members of the public to man-made or natural sources of ionising radiation in procedures where the radioactive, nuclear fission or nuclear transformation properties of radionuclides are used;
- 2) **ionising radiation** – energy flux in the form of particles or electromagnetic waves (wavelength equal to or less than 100 nanometers, or wave frequency range is equal to or more than 3×10^{15} Hertz), *i.e.* gamma radiation, x-ray radiation, corpuscular radiation and any other type of radiation which is capable of producing ionisation in a direct or indirect way;
- 3) **ionising radiation sources** – devices, radioactive substances, nuclear materials, radioactive waste or equipment capable of producing ionising radiation or radioactive substances from non-radioactive materials by irradiating them with particles or high energy gamma radiation, as well as important parts of technical equipment producing ionising radiation;
- 4) **nuclear facility** – a reactor, critical assembly, nuclear materials processing facility or isotope separation plant, as well as any location where a significant quantity (at least one effective kilogram) of nuclear materials is used, or any installation for the storage of nuclear materials located outside the site where those materials are used;

* Unofficial translation kindly provided by the Latvian authorities.

- 5) **nuclear materials** – ores from which uranium or thorium may be obtained by chemical or physical processes; uranium which contains a mixture of isotopes occurring in nature; depleted uranium, uranium-233; uranium enriched in uranium-233 or uranium-235; thorium in the form of metal, alloy, chemical compound or concentrate; plutonium, with the exception of mixtures of plutonium isotopes where the concentration of plutonium-238 is greater than 80%; as well as other materials containing isotopes capable of fission in interaction with neutrons, and which produce ionising radiation during the nuclear fission process;
- 6) **operator** – physical person or legal entity, who holds a special permit (licence) or a permit to conduct practices involving ionising radiation sources and who is responsible for radiation safety and nuclear safety within his/her controlled area;
- 7) **radiation safety and nuclear safety** – a system of organisational and technical measures for the safe, accident-free use of ionising radiation sources and of nuclear facilities, and for the protection of workers, members of the public and the environment against ionising radiation;
- 8) **radioactive substance** – a substance containing one or more radionuclides – isotopes, which during the process of nuclear transformation, produces ionising radiation with total or specific radioactivity that exceeds the permissible levels, and against which workers, members of the public and the environment require protection;
- 9) **radioactive waste** – materials, devices and items which have no further use and which contain or whose surfaces are contaminated by radioactive substances;
- 10) **ionising radiation facilities of state significance** – nuclear facilities, radioactive waste disposal or management facilities and other facilities in which practices involving radioactive substances are conducted, where the total radioactivity of those substances exceeds by one billion times the prescribed limit by the Cabinet of Ministers, which require a special permit (licence) or a permit.

Section 2

Purpose of the Act and scope of application

- (1) The purpose of this Act is to ensure the protection of people and the environment from the harmful effects of ionising radiation and to set out the distribution of responsibilities and rights of state institutions, physical persons and legal entities in the field of radiation safety and nuclear safety.
- (2) The Act establishes safety requirements for ionising radiation sources and for practices involving such sources, and imposes special requirements for ionising radiation facilities of state significance. It further prescribes the allocation of responsibilities among state authorities in the field of radiation safety and nuclear safety.

Section 3

Basic principles of radiation safety and nuclear safety

- (1) Practices involving ionising radiation sources are permissible if the following basic principles are observed:
- 1) the public and the environment may not be exposed to a dose of ionising radiation which exceeds the established dose limits;
 - 2) the positive results achieved shall exceed the negative impact or loss caused by practices involving ionising radiation sources;
 - 3) optimum radiation safety measures are chosen, taking into account economical and social circumstances, as well as technical capabilities, so that the exposure level is reasonably low and does not exceed the established dose limits;
 - 4) workers, who carry out practices involving ionising radiation sources, are insured against occupational accidents and illnesses, as well as the operator's civil liability for damage that may be caused to a third party and its property or the environment;
 - 5) practices involving ionising radiation sources may only be conducted upon receipt of a special permit (licence) or permit, except for circumstances prescribed by the Cabinet of Ministers regulations.
- (2) Ionising radiation facilities of state significance may not be sited on specially protected nature areas, specially protected nature objects or in the vicinity of inhabited areas.
- (3) The implementation of the basic principles of radiation safety and nuclear safety is carried out in accordance with the Cabinet of Ministers Regulations on protection against ionising radiation.

Chapter II

STATE SUPERVISION AND CONTROL OF RADIATION SAFETY AND NUCLEAR SAFETY

Section 4

The Radiation Safety Centre

- (1) State supervision and control in the radiation safety and nuclear safety field is independently carried out by a state regulatory authority called the Radiation Safety Centre (hereinafter referred to as "the Centre"), which is supervised by the Ministry of Environmental Protection and Regional Development.
- (2) The supervision of the Centre, according to the Act on Organisation of Ministries, is carried out by the Minister of Environmental Protection and Regional Development.

(3) The Cabinet of Ministers approves the Statutes of the Centre. The Director of the Centre is appointed by the Cabinet of Ministers upon recommendation by the Minister of Environmental Protection and Regional Development.

Section 5

Primary tasks of the Centre

The primary tasks of the Centre are as follows:

- 1) to draft policy proposals for State supervision and control of radiation safety and nuclear safety;
- 2) to carry out supervision and control of radiation safety;
- 3) to carry out supervision and ensure control over testing and holding of special dosimetric equipment and individual personal dosimeters;
- 4) to issue special permits (licences) and permits for practices involving ionising radiation sources;
- 5) to collect, analyse and submit information to the Radiation Safety Board on the radiation safety situation in the country, major users of ionising radiation sources and the results of control activities;
- 6) to inform persons who manage work involving ionising radiation sources about the applicable normative acts in radiation safety and recommendations to improve radiation safety levels;
- 7) to ensure identification, investigation and assessment of unknown ionising radiation sources discovered on national territory, or of undeclared ionising radiation sources discovered at the state's border, and to organise disposal thereof should it fail to be possible to identify the user or the owner of a radiation source;
- 8) to encourage introduction of new technologies to minimise the possible harmful impact resulting from the ionising radiation sources;
- 9) to co-ordinate technical assistance programmes in the field of radiation safety;
- 10) to prepare reports for international organisations, secretariats of conventions and agreements, and to the Commission of the European Union about issues that fall within the responsibilities of the Centre, to participate in discussions on such issues with the competent international organisations;
- 11) to assess the implementation of requirements and recommendations of international institutions in Latvia, and to draft proposals for the amendment of relevant normative documents or for the development of new normative acts;

- 12) with a view to increasing the level of radiation safety in the country, to organise and co-ordinate training of inspectors and job managers whose work is related to radiation safety, as well as to promote training of radiation workers;
- 13) to establish and update databases on the exposure of workers whose activities involve ionising radiation sources, and on the exposure of members of the public;
- 14) to ensure accounting of ionising radiation sources; to establish and update data bases on radioactive substances, nuclear materials, radioactive waste and other ionising radiation sources;
- 15) to establish and maintain a register of workers who conduct practices with ionising radiation sources or work in places with increased natural radiation;
- 16) to ensure operational 24-hour emergency preparedness for notification of a nuclear accident and serve as a communication point of contact in accordance with the “Convention on Early Notification of a Nuclear Accident”;
- 17) to assume the responsibilities as a point of contact under the Nuclear Suppliers Group in order to foster implementation of the Treaty on the Non-proliferation of Nuclear Weapons and associated agreements.

Section 6

Powers of the Radiation Safety Centre

- (1) The Centre is entitled to immediately receive information about any accidents and incidents that may impact radiation safety and nuclear safety, as well as to request and receive, free of charge, information from state institutions, authorities and operators about radiation safety and nuclear safety in order to carry out its functions.
- (2) The Centre:
 - 1) prohibits the carrying out of practices involving ionising radiation sources where radiation safety and nuclear safety norms are being violated;
 - 2) suspends those practices that do not require a special permit (licence) or permit, should human life and health be threatened.
- (3) The Centre has the power to co-operate with international organisations to resolve radiation safety issues.
- (4) Appeals against decisions and orders of the Centre are held in accordance with the applicable law.

Section 7

Powers of the Radiation Safety Centre inspectors

- (1) The Centre's inspectors have the right to inspect locations where practices with ionising radiation sources are conducted, and to collect samples in necessary quantities for supervision purposes. Such collection of samples is not considered prejudicial.
- (2) In order to control the implementation of requirements of this Act and of other normative acts in the radiation safety and nuclear safety area, the Centre's inspectors have the right to:
 - 1) make decisions and give opinions on the situation in the field of radiation safety and nuclear safety;
 - 2) issue administrative acts to job managers and operators whose work is related to ionising radiation sources, in order to prevent or avert violations of radiation safety and nuclear safety requirements and to increase radiation safety;
 - 3) draw up reports (statements) about results of inspections;
 - 4) enquire into alleged violations of radiation safety and nuclear safety normative acts and, if necessary, hold accountable those persons who are administratively liable, and to carry out other activities prescribed by laws and normative acts.

Section 8

The Radiation Safety Board

- (1) The Radiation Safety Board (hereinafter referred to as "the Board") is an advisory institution. The Cabinet of Ministers approves the Statutes of the Board. The Ministry of Environmental Protection and Regional Development organises the functioning of the Board.
- (2) The objective of the Board's activities is to consult institutions and authorities of the state and of local governments, as well as other institutions and authorities, regarding issues related to radiation safety and nuclear safety, and to promote co-operation among different institutions in order to strengthen radiation safety. Decisions of the Board are of an advisory nature and its opinions are available to anyone interested.
- (3) The Centre consults the Board on how to improve radiation safety and nuclear safety in the country before submitting proposals in this respect to the Ministry of Environmental Protection and Regional Development or to other ministries.
- (4) The Cabinet of Ministers, upon recommendation of the Minister of Environmental Protection and Regional Development, appoints the ten members of the Board and the chairman thereof for a period of four years. The Board must be comprised of at least three radiation safety and nuclear safety specialists.

Section 9

Allocation of responsibilities among authorities involved in inspections

- (1) The Ministry of Welfare and the subordinated institutions, institutions under its supervision ensure compulsory health examinations of workers involved in practices using ionising radiation sources, and carry out state technical supervision of ionising radiation equipment.
- (2) The State Border Guards, in co-operation with the customs authorities, the Sanitary Border Inspectorate and the Centre, in accordance with the procedure established by the Cabinet of Ministers, conduct inspections at the state's borders to ensure that the quantity of radioactive substances in shipments transferred across the border does not exceed acceptable norms, and that undeclared ionising radiation sources neither enter nor leave the country.
- (3) The Centre, in co-operation with institutions authorised by the Ministry of the Interior, verifies physical protection and emergency preparedness measures at locations where practices involving ionising radiation sources are conducted.
- (4) The Cabinet of Ministers sets out requirements with respect to:
 - 1) physical protection of ionising radiation sources;
 - 2) preparedness for radiation accidents and actions to be taken during such accidents.

Section 10

Radiation monitoring

The Ministry of Environmental Protection and Regional Development and the subordinated institutions and institutions under its supervision, within the scope of their competence, ensure the operation of radiation monitoring stations, exchange information in accordance with the requirements of international radiation safety and nuclear safety agreements, and participate in radioecological research.

Chapter III

LICENCING REGIME AND ISSUE OF PERMITS

Section 11

Issue of special permits (licences) and permits for practices involving ionising radiation sources

- (1) For any commercial activity involving ionising radiation sources a special permit (licence) is required, whereas for non-commercial activities, a permit to commence and conduct such activities within a fixed time period is required, taking into account any limitations imposed on activities in the relevant special permit (licence) or permit.

- (2) The Cabinet of Ministers establishes:
- 1) criteria to be observed in order to apply for a special permit (licence) or a permit for practices involving ionising radiation sources;
 - 2) procedure for the issue of special permits (licences) and permits;
 - 3) a list of practices involving ionising radiation sources, which do not require a special permit (licence) or permit because human behaviour is not capable of influencing these practices or the potential exposure to ionising radiation and the harmful effects of exposure are so insignificant that from the point of view of radiation safety, they may be disregarded.
- (3) Special permits (licences) and permits for practices involving ionising radiation sources are issued by the Centre, based on a decision made by the Commission for the issue of special permits (licences) for practices involving ionising radiation sources (hereinafter referred to as “the Commission”). In a special permit (licence) and in a permit the Centre identifies which practices are allowed for a physical person or legal entity.
- (4) The Minister of Environmental Protection and Regional Development approves the Statutes and the composition of the Commission. At least one member of the Board must be a member of the Commission.
- (5) A levy, which is deposited in the state’s central budget, is paid for issue of a special permit (licence) and a permit.
- (6) A special permit (licence) or permit may be revoked or suspended if there is a failure to meet requirements of this Act and of other normative acts with respect to radiation safety and nuclear safety, as well as requirements prescribed by special permit (licence) or permit.

Section 12

Procedure on co-ordination of establishment of ionising radiation facilities of state significance or of essential modifications thereto

- (1) In order to issue a special permit (licence) to commence commercial activity in relation to nuclear facilities or radioactive substances where the total radioactivity exceeds one billion times the limits established by the Cabinet of Ministers, which require a special permit (licence) or a permit, or where radioactive waste is used, or to issue a special permit (licence) to carry out essential modifications to the ionising radiation facilities of state significance, the Centre:
- 1) consults with the Board about the usefulness of establishing such a commercial venture, analyses the possible impact of planned changes on radiation safety and nuclear safety, and assesses whether the positive result that is to be achieved by the operator will outweigh the overall negative impact;
 - 2) conceptually agrees with the relevant local government, on whose territory the ionising radiation facility of state significance is located or planned, upon the option to grant a special permit (licence) for the given commercial activity;

- 3) informs members of the public about the application for a special permit (licence) by placing an announcement in the newspaper, "*Latvijas Vestnesis*".
- (2) The Cabinet of Ministers sets out the procedure for public hearings on the establishment of ionising radiation facilities of state significance or on essential modifications thereto.

Chapter IV

RESPONSIBILITIES OF THE OPERATOR AND THE JOB MANAGER REGARDING PRACTICES INVOLVING IONISING RADIATION SOURCES

Section 13

Basic responsibilities of the operator

- (1) Prior to commencement of practices involving ionising radiation sources, the physical person or legal entity designates a job manager and authorises him to prepare and to submit, in accordance with the procedure prescribed in the law, an application for a special permit (licence) or permit. Upon receipt of a special permit (licence) or permit the applicant is recognised as the operator and is responsible for radiation safety and nuclear safety in the controlled area.
- (2) The operator ensures that ionising radiation sources which have no further use, or whose safety no longer meets the requirements prescribed in normative acts, be made harmless.
- (3) The operator ensures that workers involved in practices using ionising radiation sources of ionising radiation (permanently employed workers and outside – contract – workers who carry out such practices temporarily) in the operator's controlled area, be protected against the effects of ionising radiation.
- (4) The procedure for control and accounting of exposure of workers is established by the Cabinet of Ministers, which also ensures that information on the exposure of outside (contract) workers can also be used in their country of residence.
- (5) The operator provides workers with individual and collective equipment for control and protection against ionising radiation.

Section 14

Basic responsibilities of the job manager

- (1) Work with ionising radiation sources is managed by the operator's authorised job manager, who possesses an adequate level of knowledge to perform physical, technical or radiochemical measurements, and make an assessment of ionising radiation doses and to effectively protect workers and members of the public against ionising radiation by correct application of protective measures.

(2) The job manager:

- 1) supervises the accounting of radioactive substances, nuclear materials and other ionising radiation sources;
- 2) enforces safety measures to protect workers, members of the public and the environment against the harmful effects of ionising radiation and to prevent accidents at nuclear facilities and other radiological accidents;
- 3) immediately informs the operator and the Centre of any accidents and incidents that may impact upon radiation safety and nuclear safety;
- 4) ensures that all radioactive waste be collected, isolated,¹ stored, treated and if necessary, disposed of causing no risk to workers, members of the public and the environment;
- 5) ensures that workers involved in practices using ionising radiation sources be sufficiently trained to implement protective measures, be aware of circumstances and of the requirements of normative acts, and be informed of potential risk related to given practices;
- 6) in accordance with the radiation safety requirements, supervises and maintains the applicable conditions, the measuring equipment and protective equipment against ionising radiation at workplaces and in other impact areas of ionising radiation sources;
- 7) ensures that only those workers who are involved in practices using ionising radiation sources be allowed to work with such sources, upon completion of a compulsory health examination.

Section 15

Provision of information

(1) The operator and the job manager are responsible for ensuring that the Centre, and the employees of other state and local government institutions whose scope of competence includes radiation safety and nuclear safety issues, receive information about radiation safety and nuclear safety measures at their respective sites.

(2) The job manager, either directly or through the media, informs members of the public about radiation safety and nuclear safety measures carried out or proposed at the site concerned.

(3) The job manager informs state and local government institutions and, either directly or through the media, informs members of the public about potential incidents, accidents and the necessary measures for protection of members of the public in the event of an accident.

1. Isolated from the environment and employees, *i.e.* put in safe storage (safe enclosure).

Section 16

Information on emergencies

- (1) The job manager reports immediately to the operator, the Centre and the State Fire Protection and Rescue Service upon all accidents and incidents, which occur during practices involving ionising radiation sources.
- (2) If as a result of an accident or other incident during a practice involving an ionising radiation source, damage is caused to any worker, the worker immediately informs the job manager thereof. The job manager immediately reports to the operator, the Centre and the State's Labour Inspectorate.

Chapter V

REQUIREMENTS FOR WORKERS REGARDING PRACTICES INVOLVING IONISING RADIATION SOURCES

Section 17

Basic responsibilities of workers

- (1) Where the doses of ionising radiation involved exceed any of the dose limits established by the Cabinet of Ministers for members of the public, practices involving ionising radiation sources may only be carried out by specially trained workers who have attained the age of 18, and:
 - 1) who are informed about the detrimental impact of ionising radiation;
 - 2) who do not have medical contraindications to ionising radiation exposure, defined by the Cabinet of Ministers;
 - 3) who are allowed to be involved in practices using ionising radiation sources in accordance with the results of the compulsory health examinations.
- (2) Workers who are involved in practices using ionising radiation sources:
 - 1) are responsible for using equipment for control and protection, and for carrying out all measures to protect themselves, other workers, members of the public and the environment against the harmful effects of ionising radiation, and for conducting the necessary measurements and records;
 - 2) are forbidden to carry out practices involving ionising radiation sources if all possible measures to prevent emergency situations that may cause additional exposure or contamination of the environment are not implemented.
- (3) If a worker who is involved in practices using ionising radiation sources shows impairment of health, which may possibly be attributed to the impact of the ionising radiation, the said worker is responsible for:
 - 1) immediately informing the job manager of this;

- 2) discontinuing practices related to ionising radiation and undergoing additional health examinations.

Section 18

Employment of adolescents, pregnant women and breast-feeding mothers

- (1) Persons aged between 16 and 18 years may only be involved in practices using ionising radiation sources for educational purposes, and the effective dose of ionising radiation for such apprentices or students may not exceed 6 millisieverts per year.
- (2) A pregnant woman may not be employed in practices involving ionising radiation during the whole period of her pregnancy. Upon notification of her pregnancy to the employer, a pregnant woman must be transferred to work which is not related to ionising radiation, if the employer cannot provide working conditions which ensure that the exposure dose which may be received by the foetus during the whole period of pregnancy does not exceed the effective dose limit for members of the public – 1 millisievert, thereby ensuring that the negative impact of ionising radiation on the safety and health of a pregnant woman is avoided.
- (3) Breast feeding mothers may not be involved in work related to unsealed radiation sources.

Section 19

Partly dangerous practices

Should the presence of a worker who is not involved in practices using ionising radiation sources be required at a place where practices involving ionising radiation sources are carried out, the job manager is responsible for ensuring that the total dose of ionising radiation received by that worker does not exceed the dose limit for members of the public – 1 millisievert per year. If this requirement cannot be met, the job manager may allow only those workers who are involved in practices using ionising radiation sources to perform the tasks of the worker in question.

Section 20

Protection of visitors

If it is deemed that the operator's controlled area is to be visited on a regular basis, the job manager co-ordinates with the Centre the plan of measures to protect those persons concerned from exposure to ionising radiation.

Chapter VI

RADIATION SAFETY MEANS AND MEASURES

Section 21

Additional investigations

Any physical person or legal entity has the right to request that the Centre carry out supplementary investigations into the radiation safety and nuclear safety situation in any operator's controlled area. The costs involved in collecting samples and analyses are covered by the person requesting such investigations.

Section 22

Physical protection of ionising radiation sources

- (1) Physical protection of ionising radiation sources is carried out by an operator in accordance with the procedure prescribed by normative acts.
- (2) The Security Police co-ordinate measures for recovery of nuclear material, and carry out necessary activities, in the case of unauthorised transfer, use, or trafficking of nuclear materials or justified threat of such unauthorised use.
- (3) The Centre and the Security Police control the physical protection of ionising radiation sources.

Section 23

Conditions for packaging, marking and supply of ionising radiation sources

- (1) An entrepreneur who produces, imports, exports or leases radioactive substances or other ionising radiation sources:
 - 1) is responsible for the resistance and safety of the packaging of radioactive substances or ionising radiation sources;
 - 2) ensures that containers comprising an ionising radiation source bear a radiation warning sign and details of its contents (including in particular information which is necessary for protection against ionising radiation) in the Latvian language. If this information is in a foreign language, its translation into the Latvian language must also appear;
 - 3) ensures that the consignment documents for an ionising radiation source be supplemented with a safety data sheet in two copies, one of which is shipped along with the consignment and the other copy of which is sent by mail. The content of safety data sheets is specified in accordance with the requirements of Section 24 of this Act;

- 4) ensures that ionising radiation sources are supplied whole and complete with the equipment necessary to protect workers, members of the public and the environment against the harmful impact of ionising radiation.
- (2) The procedure for packaging and marking of radioactive substances and ionising radiation sources is set out by the Cabinet of Ministers.

Section 24

Contents of safety data sheet

- (1) The Cabinet of Ministers approves the model safety data sheet, and sets out the procedure for its completion and transmission.
- (2) The safety data sheet must be comprised of information relevant to a radioactive substance or an ionising radiation source:
 - 1) identification of the radioactive substance or ionising radiation source and information on the manufacturer, importer or other person supplying that radioactive substance or ionising radiation source;
 - 2) description of hazards presented by the radioactive substance or ionising radiation source;
 - 3) description of first aid measures;
 - 4) description of measures to be taken in the event of an accident;
 - 5) requirements for storage and use;
 - 6) requirements for work safety measures;
 - 7) requirements for safe transport;
 - 8) information on the main normative acts governing practices involving the radioactive substance or ionising radiation source concerned;
 - 9) other information relevant for safety, the protection of human life and health or of the environment.

Section 25

Installation and maintenance of ionising radiation sources

An entrepreneur who installs or repairs devices/apparatus related to ionising radiation sources, may only install such devices/apparatus if protective equipment is provided and other measures for protection against ionising radiation and work safety rules are observed.

Section 26

Procedure for accounting and control of nuclear material

The Cabinet of Ministers sets out the procedure governing practices involving nuclear materials, related materials and equipment and the procedure for maintenance of systems for the accounting and control of nuclear materials.

Chapter VII

RADIOACTIVE WASTE AND UNUSABLE IONISING RADIATION SOURCES

Section 27

Radioactive waste

- (1) Import of radioactive waste into the Republic of Latvia from other countries is prohibited, except in cases:
 - 1) where such radioactive waste originated as a result of the treatment of radioactive waste exported from the Republic of Latvia and is being transported back into the country;
 - 2) where it is impossible to segregate the radioactive waste which, during the treatment process abroad, originated from the radioactive waste which was imported from the Republic of Latvia in such case an equivalent amount of other radioactive waste can be imported into the country.
- (2) Before issuing a special permit (licence) or permit for practices which may result in generation of radioactive waste, the Centre requests information about the projected quantity of radioactive waste and measures to be taken by the operator in relation to such waste.
- (3) The Cabinet of Ministers establishes requirements governing practices involving radioactive waste and related materials.
- (4) The Cabinet of Ministers approves criteria and principles to establish equivalence of different types of radioactive waste.
- (5) In the case of import into the Republic of Latvia of radioactive substances that, after use thereof, generate radioactive waste which needs to be disposed of in Latvia, a natural resource tax is payable on the import of such substances.

Article 28

Termination of operation of ionising radiation equipment/apparatus which does not contain radioactive substances

- (1) If the operator owns or has possession of equipment/apparatus which is capable of generating ionising radiation, but which does not contain radioactive substances and which is no longer needed

for further practices, or if their safety no longer corresponds to requirements laid down in the Republic of Latvia, the operator makes this equipment/apparatus harmless and notifies the Centre thereof.

(2) The Cabinet of Ministers sets out the procedure for the dismantling of ionising radiation equipment that does not contain radioactive substances.

Chapter VIII

LIABILITY FOR VIOLATIONS

Section 29

Compensation of loss and nuclear damage

- 1) An operator who has violated requirements prescribed in normative acts shall compensate any party who has suffered damage to human health, property and the environment associated with practices involving ionising radiation sources.
 - 2) An operator has the right of recourse against any person who is liable for such loss incurred.
- (2) If during the performance of practices using ionising radiation sources, the environment or buildings are contaminated, the operator shall use his own resources to ensure the clean up (decontamination) of the environment and the premises so that the contamination no longer presents a threat to the environment, life, health or property of workers and members of the public or the life and health of animals. The operator also covers all costs for the collection of samples and investigations.
- (3) The operator shall not be required to compensate such damage if the loss is due to *force majeure*, or if it was caused intentionally by the person responsible or due to his negligence. This does not apply to cases which should have been foreseen by the operator, in accordance with normative acts to implement the preventive measures concerned.
- (4) The operator of a nuclear facility is solely liable for nuclear damage caused by that facility. The liability of the Republic of Latvia, as an operator, for any separate nuclear damage is limited to 80 million lats.

Section 30

Requirements for the management of unlawfully used ionising radiation sources

- (1) Ionising radiation sources which have been used in violation of the requirements set out in this Act and in other normative acts, together with protective equipment which is directly related to ionising radiation sources, is to be given by the operator to a radioactive waste disposal or management facility, ensuring that members of the public and the environment are not endangered.
- (2) Ionising radiation sources, of which the user or owner is not known, are to be given, observing radiation safety requirements, to radioactive waste disposal or management facilities by the authorities which discovered such ionising radiation sources.

Transitional provisions

1. The Cabinet of Ministers regulations, issued in accordance with Sections 4, 6, 7, 9, 23, 25 and 27 of the Act on Radiation Safety and Nuclear Safety² (*Latvijas Republikas Saeimas un Ministru Kabineta Zinotajs*,³ No. 3, 1995; No. 11, 1997) remain in force until the entry into force of new regulations by the Cabinet of Ministers, but not longer than 12 months after the entry into force of this Act.⁴
2. The Cabinet of Ministers, within a period of 12 months after the entry into force of this Act, issues regulations for the implementation of the norms prescribed in Section 1, in paragraphs 1 and 3 of Section 3, paragraph 3 of Section 4, paragraphs 1 and 4 of Section 8, paragraphs 2 and 4 of Section 9, paragraph 2 of Section 11, paragraphs 1 and 2 of Section 12, paragraph 4 of Section 13, paragraph 1 of Section 17, paragraph 2 of Section 23, paragraph 1 of Section 24, Section 26, paragraphs 3 and 4 of Section 27, paragraph 2 of Section 28, and paragraph 4 of Section 29.
3. Special permits (licences) and permits issued before the date of entry into force of this Act are valid until the expiration of the term of validity specified therein.
4. Upon entry into force of this Act, the Act on Radiation Safety and Nuclear Safety is repealed (*Latvijas Republikas Saeimas un Ministru Kabineta Zinotajs*, No. 3, 1995; No. 11, 1997).

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2. The full text in English of this Act was reproduced in the Supplement to *Nuclear Law Bulletin* No. 55 (June 1995).
 3. Bulletin of the Parliament and the Cabinet of Ministers of the Republic of Latvia.
 4. This Act entered into force 14 days after its signature by the Latvian President, *i.e.* on 22 November 2000.