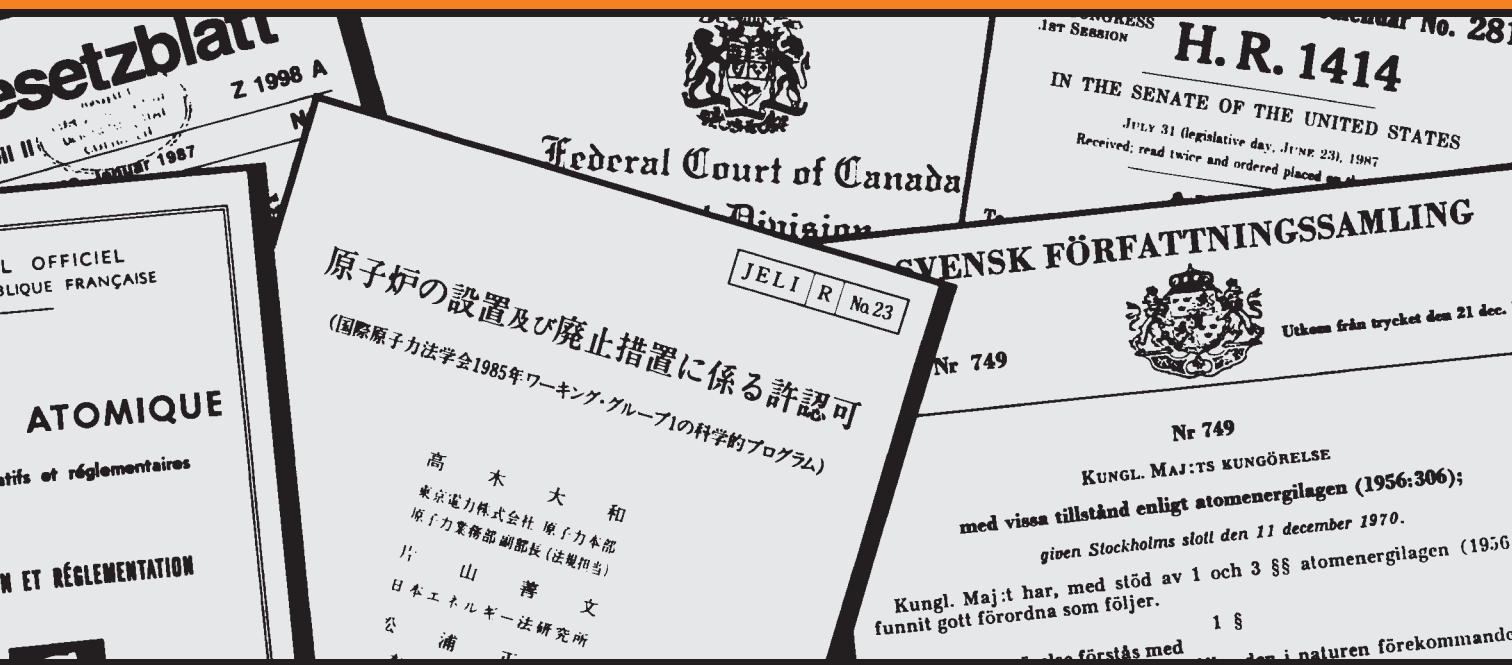




# NUCLEAR LAW



## BULLETIN 65/JUNE 2000

NUCLEAR ENERGY AGENCY



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# NUCLEAR LAW BULLETIN No. 65

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June 2000  
Nuclear Energy Agency  
Organisation for Economic Co-operation and Development

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## **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?*

**By Katia Boustany\***

Enshrined in its Statute,<sup>1</sup> the normative activity of the IAEA has resulted in the production of a large number of documents, of variable style, on different aspects of nuclear safety. Although all these instruments belong in the category of “*soft law*”, they are classified by the Agency according to its own “normative hierarchy”, essentially designed to differentiate those that are subject to the approval of the Board of Governors which, once received, places them at the top of the pyramid.

In 1996 the IAEA published, in its “Safety Fundamentals” series, a document entitled “Radiation protection and the safety of radiation sources” which, like all those in this collection, had been approved by the Board of Governors. Hence, the production of a draft Code of Conduct on “The safety of radiation sources and the security of radioactive materials” raises the question as to what such a tool could add to the normative setting.

In fact, by its very nature, a Code of Conduct is also an instrument of *soft law*; however it is worthwhile looking into the background to this particular code so that we may identify the intention underlying its inception.

Following the International Conference in Dijon<sup>2</sup> on “The Safety of Radiation Sources and the Security of Radioactive Materials”, a report on its main conclusions was presented, a few days later, to

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\* The author of this paper is Professor in the Faculty of Law and Political Science of the University of Quebec in Montreal, and at the time this paper was written, was still responsible to the Legal Division of the IAEA for the co-ordination of legislative assistance. The author therefore wishes to point out that the analyses and opinions given here are those of an academic considering normative processes, and in no way reflect the positions of the Organisation or invoke its responsibility.

1. Article III, A.6 of the Statute of the IAEA.
2. The Conference took place from 14 to 18 September 1998 and was organised jointly by the European Commission, the International Atomic Energy Agency, the International Criminal Police Organisation (INTERPOL) and the World Customs Organisation. The proceedings of the Conference were published under the title: *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.

the IAEA General Conference.<sup>3</sup> The General Conference then went on to adopt a Resolution<sup>4</sup> in which it requested

the Secretariat to prepare for the consideration of the Board of Governors a report on i) how national systems for ensuring the safety of radiation sources and the security of radioactive materials can be operated at a high level of effectiveness and ii) whether international undertakings concerned with the effective operation of such systems and attracting broad adherence could be formulated.

In response to this request, the Secretariat of the Agency drew up a report based upon the opinion of a group of senior experts<sup>5</sup> which was submitted to the Board of Governors at its March 1999 meeting. In the light of the conclusions and recommendations set out in this report,<sup>6</sup> the Board requested the Secretariat to prepare an action plan taking into account both the report itself and the Board's discussion on this issue, and requested the Director-General of the Agency

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.<sup>7</sup>

The draft action plan was first drawn up by the Secretariat with the help of a group of consultants,<sup>8</sup> then endorsed by a technical committee,<sup>9</sup> and finally submitted in September 1999 to the Board of Governors and to the General Conference. As regards the question of an international undertaking, the document states:<sup>10</sup>

Independently of its legal form, such an undertaking should be seen as part of a programme for strengthening the resolve of States to establish appropriate regulatory infrastructures for the

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3. Forty-second regular session, 21-25 September 1998.

4. IAEA, GC(42)/RES/12, 25 September 1998.

5. This group of experts met, together with representatives of the Division of Nuclear Safety responsible for these matters, first in Buenos Aires, from 7 to 10 December 1998, at the headquarters of the Argentine National Atomic Energy Commission, and secondly, from 27 to 29 January, in Washington DC at the headquarters of the United States Nuclear Regulatory Commission (IAEA, GOV/1999/16, 25 February 1999).

6. IAEA, GOV/1999/16, 25 February 1999, attachment.

7. IAEA, GOV/1999/16, 25 February 1999, paragraph 6(d).

8. This group of consultants met in Prague from 25 to 28 May 1999 (GOV/1999/46 – GC (43)/10, 6 September 1999, paragraph 8).

9. The committee consisted of senior experts from the following countries: Australia, Canada, the Czech Republic, China, Egypt, Finland, France, Germany, Iceland, India, Israel, Spain, Turkey, Ukraine, the United Kingdom and the United States of America; it was chaired by Mrs. Mary Clark, of the United States Environmental Protection Agency, and met in Vienna from 12 to 14 July 1999. It was also attended by an observer from the European Commission (GOV/1999/46-GC(43)/10, 6 September 1999, paragraph 8).

10. GOV/1999/46-GC(43)/10, attachment 2, p. 14 "International undertakings".

safety of radiation sources and the security of radioactive materials, the existence of such infrastructures being a fundamental presumption of the BSS.<sup>11</sup>

The document further proposes, as an action to be undertaken in this connection, the organisation of a meeting of technical and legal experts to discuss, in particular, the content and form of such an international undertaking. As a matter of fact, the first such meeting was held at the headquarters of the Agency in Vienna from 6 to 10 March 2000,<sup>12</sup> and will be addressed herein.

One observation should be made immediately: even though the attitudes of the inter-governmental bodies of the IAEA – the Board of Governors and the General Conference – reflect a continuing reluctance to consider resolutely the option of a conventional instrument in the field under consideration, it seems to us that the Secretariat of the Agency is hidebound in its perception of the normative process that is linked exclusively to action by States: adopting adequate legislation, setting up a regulatory body, instituting a licensing and inspection regime, introducing “national arrangements” for the proper management and disposal of “disused” sources and for the prompt reporting and the recording of missing sources,<sup>13</sup> to mention but a few. Now, essentially all these components of a system for the control of radiation sources are already set forth in the International Basic Safety Standards, in the above-mentioned document “*Radiation Protection and the Safety of Radiation Sources*”, in the “Safety Fundamentals” series, and in other documents establishing safety standards. Indeed some of them are invariably mentioned in the preamble to the successive drafts of the Code of Conduct.

Moreover, the model project devoted to “Upgrading Radiation Protection Infrastructure”<sup>14</sup> is intended precisely to pave the way for the establishment of national systems which meet the administrative requirements of the BSS. In this respect, the IAEA has deployed various forms of action to assist the States participating in this project to achieve this objective.

In this dual context, we do not believe that the draft Code of Conduct, in its present form, can provide any new answers to the problems raised by the question of the safety of radiation sources and the security of radioactive materials,<sup>15</sup> even if it could have the merit of consolidating into a single document the different parts – hitherto scattered – of an adequate legal and regulatory system.

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11. BSS refers to the *International Basic Safety Standards for Protection Against Ionising Radiation and for the Safety of Radiation Sources*, Safety Collection No. 115, IAEA, Vienna, 1997.
  12. The experts came from the following countries: Argentina, Australia, Austria, Canada, Cuba, Egypt, Finland, France, Germany, India, the Republic of Korea, the Russian Federation, the Slovak Republic, Sweden and the United States of America; the meeting was also attended by representatives of the European Commission, the OECD Nuclear Energy Agency and the Pan-American Health Organisation – PAHO.
  13. GOV/1999/46 – GC(43)/10, attachment 2, pp. 13-14 “International Undertakings”; see also, in the same context, the conclusions and recommendations of the report mentioned previously: GOV/1999/16, 26 February 1999, paragraph 5.
  14. Fifty-one States from Africa, East Asia and the Pacific, West Asia, Europe and Latin America are participating in this model project and thereby receive assistance from the Agency: see the information sheet accessible on the Agency’s Internet site: <http://www.iaea.org/ns/rasanet/projects/modelproject/modelproj.htm>.
  15. It is not our intention here to list the different (known) accident situations that underlie the concerns resulting in the series of approaches, meetings and discussions of which the principal outcome was to acknowledge the necessity for an international undertaking on the safety of radiation sources and the security of radioactive materials; for that we refer the reader to the above-mentioned Proceedings of the

In fact, the pattern of reflection which focuses upon the normative function of the State is inspired primarily by the situations noted in recent years in a number of developing countries and in some of the New Independent States – NIS (the former USSR), where the absence of a regulatory authority specifically responsible for the control of activities related to the different applications arising from nuclear technology is common. While neither denying nor diminishing the relevance of these concerns, one is nonetheless bound to admit that this is a first order reaction, because a more thorough analysis of the problems arising clearly shows that, beyond States and the regulatory mechanism, the relationship between supplier and acquirer or user of radiation sources is also at stake and deserves particular attention.

This raises the problem of the addressees of the Code of Conduct, which was put forward by one of the experts during the first round-table discussion on the initial draft, which merely set out topics for discussion. Unfortunately this major issue did not sufficiently attract the attention of the members of the group of experts, and none of the subsequent versions of the draft Code arising from this meeting deals with the subject from this angle.<sup>16</sup>

In order to make up for this shortcoming, we shall take the liberty to do so.

We apologise for focusing on this one aspect of the situation, being aware that there are, undoubtedly, other matters of importance.

One of the attractions in using an instrument of *soft law* rather than a conventional tool is precisely the fact that the responsibility for implementing the standards which it sets out may not in fact be limited to States alone; it may transcend their inherent normative function – the exercise of which may prove uncertain – in order to target directly also other addressees of the normative corpus – its ultimate addressees, in this case the suppliers and acquirers or users of radiation sources.

In fact, the objective of any normative instrument is to instigate behaviour that complies with the rules it lays down. From this perspective, the conventional medium places the onus entirely upon the State to establish the legal, regulatory and administrative arrangements implementing rules agreed in the international legal system into the domestic legal system. As is well known, this means that the relevant standards have to travel an extremely long route before they reach their ultimate addressees, with the State in this instance acting only as an intermediate addressee assuming a kind of catalytic role with regard, precisely, to the ultimate addressees. However, this catalysis, if it is to take place, depends on a large number of imponderables, such as the importance of the problem in relation to the government's political agenda, the ratification of the conventional instrument by the parliament as well as the adoption by it of subsequent legal modifications, and the promulgation of implementing rules, to mention but a few. Even so, this disregards the complexity of the formal negotiations of a convention and its inevitable shortcomings because of the concessions that would have been made on all sides to produce a text that can be regarded as “consensual”.

On the contrary, the *soft law* tool does in fact offer the flexibility of not being dependent on State action alone. Not that such action should be neglected, far from it! It makes it possible for all the parties concerned by this type of normative nomenclature to be associated with it on the basis of a shared responsibility; this enables those standards that are more particularly orientated towards the

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Dijon Conference, and to the report – also mentioned – that the Secretariat of the IAEA had prepared at the request of the General Conference in 1998 (GOV/1999/16, attachment).

16. We hope that forthcoming meetings will examine this issue.

behaviour of their ultimate addressees to produce their effects without necessarily waiting until the machinery of State has fulfilled its tasks.

Of course, the objection can be raised that a *soft law* instrument is not legally binding. Rightly so. But neither is an unratified convention! And, in any event, all international relations are governed by the fundamental principle of good faith,<sup>17</sup> including this type of *soft law* instrument qualified more precisely as “concerted unconventional acts”.<sup>18</sup> Finally, this will not be the first example of a Code of Conduct in the international normative sphere, the addressees of which are not States.<sup>19</sup>

Hence, the Code of Conduct on the safety of radiation sources and the security of radioactive materials – which, as its name implies, aims precisely to obtain from those concerned to conform their behaviour with the requirements set forth in its standards – also has to concern itself with the actions of the suppliers and acquirers or users of radiation sources in the case of transboundary transactions. It would, in fact, have been more in line with recent trends in normative development to invite representatives of the civil society around the table discussion on the Code, in other words, representatives of the suppliers and users of radiation sources.

In order to cover the entire spectrum of activities and situations related to the safety of radiation sources and the security of radioactive materials as extensively as possible, the Code of Conduct should spell out the supplier’s responsibility in the country of export to ensure that the user, in the country of import, may find available the means that allow to secure the sound management of sources that have been withdrawn from service for any reason whatsoever. Otherwise, the supplier should give the acquirer or the user the option of returning back sources which are no longer of use. In the same way, where the acquirer’s or user’s country of import does not offer the necessary infrastructure to ensure the sound management of sources for which no further use is foreseen, the acquirer or user should have the responsibility, under the terms of the Code, to require that the supplier take back such sources.

Of course, this twin responsibility involves costs. These should be calculated and agreed in the contract governing relations between supplier and acquirer or user. Such costs will be passed on by the user to the beneficiaries of the service involving the use of the said sources. For, all things considered, these costs will be incurred in one way or another, and it is preferable to make provision for them in advance and to manage them, rather than to have to bear such costs in situations of radiological emergency, the consequences of which are inevitably dramatic in terms of their financial and human costs.

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17. It is recalled that Kelsen had made the rule of good faith the cardinal principle of international law, placed at the top of his pyramid representing the hierarchy of norms: Hans Kelsen, *Théorie pure du droit*, Éditions de la Braconnière, Neuchâtel, Switzerland, 2nd Edition 1988, p. 177; the ICJ for its part, in its decision concerning French nuclear tests, has referred to good faith in connection with the obligation for a State to abide by a unilateral undertaking given in the form of a declaration by a high ranking political official, in this case the President of the French Republic: *Australia v. France & New Zealand v. France*, ICJ, 20 December 1974, vol. 1974, pp. 253-457; the same rule of good faith is one of the main cornerstones in the arbitration of Professor René-Jean Dupuy in the case opposing the oil companies Texaco and Calasiatic to Libya: the single Arbitrator had retraced the existence of this rule as a principle governing contractual relations in different national legal systems, including the Islamic law in force in Libya, and concluded that good faith was, in this field too, a general principle of international law: *Texaco – Calasiatic v. Libya*, SA R.-J. DUPUY, 19 January 1977, JDI 1977, p. 350.

18. NGUYEN QUOC Dinh, Patrick DAILLIER, Alain PELLET, *International Public Law*, LGDJ, 6th edition, Paris 1999, p. 338, paragraph 254.

19. See, for example, the work by the United Nations on the Code of Conduct for Transnational Corporations.

Beside transactions involving the supply and acquisition of radiation sources, exchanges of equipment for the use of such sources also form part of the international trade. Therefore, the twin responsibility with which we are concerned here should encompass situations where the supplier is not necessarily the manufacturer himself but, for example, an institution qualified as a user in a particular country and which becomes a supplier by reselling equipment for the use of radiation sources to a user in another country. Such situations are likely to become more frequent in a context where rapid technological progress leads establishments to acquire new technological equipment, while finding it financially advantageous to sell on old equipment to an institution in another country. The responsibility of this type of supplier should be to require that the acquirer provide proof of official licence to import the type of equipment covered by the transaction and, above all, to ensure that the terms of his contract with the manufacturer as regards guarantees, where applicable, and the maintenance of the equipment, can be properly transferred to the benefit of the new acquirer. Indeed, it is well known that the safe use of radiation sources is also dependent on the quality and reliability of the maintenance of this equipment.

In transactions of this kind, the acquirer, for his part, should be responsible not only for obtaining the necessary licences, but also for securing the transfer in his favour of the contractual conditions governing the maintenance of the equipment by the manufacturer or his representatives in the country of import. It is, in fact, extremely important to avoid any break in the chain between the user of the equipment and the manufacturer.

These considerations concerning the ultimate addressees of the Code of Conduct – suppliers, users and acquirers – should in no way discharge States from their duty to set up the required legal, regulatory and administrative framework, according to the common understanding in this connection, and the Code would certainly facilitate their task by setting out clearly the various aspects of the action for which they are responsible. However the implementation of the provisions of the Code is also – and this must not be forgotten – a process that takes place over time, and this time should not be lost: it should rather be turned to account by all its potential addressees to enable them to move progressively, as they carry out their activities, to making the modifications in their methods and practices required of them by the standards of the Code of Conduct that specifically concern them.

For there are no instantaneous behavioural effects induced by a *soft law* corpus or standard: there are only converging wills abiding by good faith.

Insofar as States accept the idea that it would be appropriate, at the very least, to have a Code of Conduct on the safety of radiation sources and the security of radioactive materials, they acknowledge implicitly that the existing normative documents are still insufficient, for a great variety of reasons. However, these have the common feature that their sole addressees are States or their competent bodies. This shortcoming should be overcome in the Code of Conduct by including the other addressees concerned by the normative nomenclature, *i.e.* the suppliers, users and acquirers of radiation sources and related equipment. Failing this, the Code of Conduct is very likely to resemble, in terms of the effectiveness of its provisions, the other instruments so laboriously elaborated.

According to one of the cardinal rules governing nuclear activities, a practice involving exposure to radiation should be authorised or undertaken only if the forecasted benefits to persons or society outweigh the detriment resulting from the exposure to radiation. It would be ironic and incoherent if this social perspective did not influence the promoters and drafters of the Code of Conduct on the safety of radiation sources and security of radioactive materials by causing them to involve, both with the content of the code and its process of elaboration, representatives of the civil society who are, inevitably, the ultimate addressees.

There is still time.

# The Treaty on the Non-Proliferation of Nuclear Weapons and the Process for Its Enhanced Review on the Eve of the 2000 Review Conference

by Cyril Pinel\*

According to Article VIII.3 of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT),<sup>1</sup> “Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depository Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.”

This Article set out the principle and essentials of the process for reviewing the operation of the NPT.

In addition to Article VIII.3, Article X.2 provided that “Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This Decision shall be taken by a majority of the Parties to the Treaty.”

At the time foreseen by this Article – in 1995 – the NPT Review and Extension Conference was held in New York and adopted three decisions: Decision 1 about strengthening the process of reviewing the Treaty, Decision 2 concerning the principles and objectives for nuclear non-proliferation and disarmament, and Decision 3 on the extension of the Treaty, together with a resolution on the Middle East.

Decision 3 provided for the indefinite extension of the Treaty. It was unanimously welcomed by the international community as a major step forward in enhancing non-proliferation. We shall not discuss this Decision further here since it is already well known and has been widely commented upon.<sup>2</sup>

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1. The NPT was opened for signature on 1 July 1968 and came into force on 5 March 1970 (INFCIRC/140). Following the accession of Brazil in 1998, there are now only four states that have decided not to accede to the Treaty: Cuba, India, Israel and Pakistan.
2. See in particular Th. DELPECH, *L'héritage nucléaire*, Editions Complexe 1997, Chapter 3 “*La prorogation indéfinie du TNP: Une victoire éclatante et fragile*”; L. ROCKWOOD, “Non-Proliferation Treaty 1990 Review Conference: Looking Towards 1995”, *Nuclear Law Bulletin* No. 46 (December 1990); L. ROCKWOOD, “The Nuclear Non-Proliferation Treaty: A Permanent Commitment to Disarmament and Non-Proliferation”, *Nuclear Law Bulletin* No. 56 (December 1995).

Decision 2 encompasses a number of principles and objectives concerning the universality of the Treaty, non-proliferation, nuclear disarmament, nuclear-weapon-free zones, security assurances, safeguards, and the peaceful uses of nuclear energy, and was adopted with a view to improving the implementation of the Treaty's objectives. These principles and objectives are now in the process of being fulfilled.<sup>3</sup>

Decision 1 on a strengthening of the review process was used as a basis for preparing the next review conference. It was decided that a Preparatory Committee should hold a meeting in each of the three years prior to the Review Conference.

According to the new approach defined in Decision 1, the Preparatory Committee should consider matters of substance with a view to promoting the full implementation of the Treaty, as well as procedural questions.

On the eve of the 2000 Review Conference, which will be held in April-May 2000 in New York, a clear view of the work already accomplished by the Preparatory Committee is desirable.<sup>4</sup> The 2000 Review Conference is of considerable importance for the future of the nuclear non-proliferation regime, particularly in the light of the fact that after the indefinite and unconditional extension of the Treaty, the non-nuclear-weapon states urged the nuclear-weapon states to take new steps towards nuclear disarmament and, to a lesser degree, towards the development of the peaceful uses of nuclear energy. This is how these negotiations currently stand.

However in order to grasp the whole picture, it is essential to look back to the initial period of application of the Treaty during its first 25 years. We shall do this before reviewing the later period covering the years 1995-2000.

### **The period 1968-1995 or “achieving a balance”**

The point of balance of the NPT lies in its Articles II, IV and VI.

Article II encompasses the undertaking by the non-nuclear-weapon states not to acquire nuclear weapons,<sup>5</sup> which is a major undertaking for any sovereign state.

Article IV establishes the inalienable right of all the Parties to develop the peaceful uses of nuclear energy.<sup>6</sup>

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3. As an illustration we may mention the Comprehensive Test Ban Treaty (CTBT), the completion of which was foreseen in the programme of action included under item 4 of Decision 2, which was in fact adopted on 10 September 1996 in Resolution 50/245 of the United National General Assembly. However another item in the programme of action, the rapid conclusion of negotiations on a Treaty to ban the production of fissile material intended for the production of nuclear weapons or other nuclear explosive devices (SMCT), has not yet been achieved.
  4. The Preparatory Committee has held three meetings, in 1997 (New York), 1998 (Geneva) and 1999 (New York).
  5. “Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any source whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.”



The non-nuclear-weapon states therefore undertook not to develop nuclear weapons. To give weight to this undertaking, the nuclear-weapon states and those possessing the technology affirmed in parallel the inalienable right of all to develop the peaceful uses of nuclear energy and confirmed that they would facilitate such a process.

To this “balance” the nuclear-weapon states added a “promise”: the undertaking to continue negotiations on disarmament. This is Article VI of the Treaty.<sup>7</sup> Two of its provisions deserve particular attention: “pursue in good faith” and “at an early date”. For most of the states that have renounced nuclear weapons, there was no doubt that the nuclear-weapon states had not kept to their undertakings in these two areas.<sup>8</sup> Nobody responded to this criticism by claiming that the nuclear-weapon states had been prevented from honouring their undertakings on these two points because Article VI links negotiations on nuclear disarmament to an overall and comprehensive disarmament treaty. Since the international situation did not allow any move towards overall and comprehensive disarmament, the nuclear-weapon states were then unable to move separately towards nuclear disarmament. This was particularly true for those states whose policy was to hold up nuclear weapons as a means of dissuasion. This analysis was certainly coherent but did not necessarily satisfy the non-nuclear-weapon states. Accordingly, it was in an atmosphere of some tension that the Review and Extension Conference was held in 1995.

In the end, this Conference was a success for non-proliferation.

In 1995, the negotiators decided that the Treaty should remain in force for an indefinite period (Decision 3).<sup>9</sup> However, this important result of the Conference was not secured without difficulty. Some satisfaction had to be given to those who, 25 years earlier, had agreed to renounce nuclear weapons and who were complaining that the cause of nuclear disarmament was not moving ahead quickly enough. Moreover they deplored the fact that the nuclear technology states were unjustifiably hindering their civilian nuclear development.

The states Party to the Treaty therefore adopted – along with Decision 3 on indefinite extension – two other Decisions<sup>10</sup> and one Resolution that together made up the compromise “package”.

According to Decision 1, the Preparatory Committee should hold a meeting, normally lasting 10 working days, in each of the three years prior to the Review Conference. These meetings would review the principles, objectives and ways and means aimed at promoting the full application of the Treaty, together with its universality, and make relevant recommendations to the Review Conference. Decision 1 also provides for the review conferences to look to the future as well as the past, to evaluate the results obtained, and to identify those areas in which more progress should be made in the

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6. “Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.”
  7. “Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.”
  8. See the paper by Professor Fadhel MOUSSA at the INLA Congress in 1999: “The indefinite extension of the NPT: a fool’s contract?”.
  9. NPT/CONF.1995/DEC.3.
  10. NPT/CONF.1995/DEC.1 and 2.

future, as well as the ways and means of doing so. The Decision thus constitutes a veritable procedural guide to the conduct of the Review Conferences.

After the “procedural guide”, Decision 2 on the principles and objectives of nuclear non-proliferation and disarmament then set out the “plan of action”, identifying a number of principal stages: a Treaty placing a comprehensive ban on nuclear tests, a Treaty to ban the production of fissile material intended for the production of nuclear weapons or other nuclear explosive devices (Special Material Cut-off Treaty – SMCT),<sup>11</sup> the development of nuclear-weapon-free zones, particularly in areas of tension such as the Middle East and, finally, the reduction followed by the elimination of nuclear weapons. As we have already indicated, on the eve of the 2000 Review Conference this plan of action is not yet in place.

Against the background of this compromise it is important not to forget the Resolution on the Middle East that reaffirms in particular the necessity for all States to accede to the NPT as soon as possible and calls upon all States in the Middle East, *without exception*, to accede to the Treaty as soon as possible and to arrange for the Agency’s overall safeguards<sup>12</sup> to be applied to their nuclear installations.

The success finally achieved in 1995 was made possible by a decisive issue: the objective of extending the Treaty which, with the adoption of Decision 2 and the resolution on the Middle East, made it possible to confirm the balance of the Treaty, in accordance with the wishes of the great majority of the Parties.

In the light of the above an observer may ask what has happened today to the attitude which, in 1995, enabled the spirit of compromise to win the day over confrontation, what are the omens for the 2000 Review Conference, and what events have marked the last five years.

### **1995-2000: Maintaining equilibrium**

We shall begin by reviewing the work done by the Preparatory Committee and its achievements in the light of the “procedural guide” set out in Decision 1.

The Preparatory Committee has held three meetings, the first in New York in 1997.

This first negotiating session, which lasted 2 weeks and was attended by representatives of 149 states under the chairmanship of Ambassador Patokalio from Finland (representing the western group) raised considerable hopes.

In fact the Preparatory Committee, in its report on the first session, adopted “recommendations for the second meeting of the Preparatory Committee”.<sup>13</sup> Thus the intention was that in the second meeting “official documents and other proposals submitted by delegations during the first meeting [...] should be taken into account in the review of draft recommendations to be sent to the Review Conference, together with the working document submitted by the Chairman”. One may ask what documents and proposals were involved and what level of consensus that represented.

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11. See note 3.

12. See IAEA, INFCIRC/153 (corrected): “Structure and content of agreements between the Agency and States required in connection with the Treaty on the Non-Proliferation of Nuclear Weapons”.

13. NPT/CONF.2000/PC.32, III.

The working document prepared by the Chairman is reproduced in Annex II of the Committee's report. It is in two main parts. The first of these – the consensual part – represented the “general agreement” of the delegations on a number of points. These included for example the need to ensure universal accession to the Treaty, the reaffirmation of the need to open immediately and to conclude negotiations on a Treaty to ban the production of fissile material intended for the production of nuclear weapons or other nuclear explosive devices and aspects of the conclusion in 1997, in the IAEA framework, of the programme to strengthen safeguards.<sup>14</sup>

This compilation demonstrated the continued existence of a minimum consensus on a number of principal questions, such as the above examples.

In addition to this first, consensual, part there was a second non-consensual (or “catch-all”) part that the delegations used to express a great variety of requests and wishes. These are the “official documents and other proposals” mentioned above, covered in item III of the report “Recommendations for the second meeting of the Preparatory Committee”.

It is true that the balance between these two parts – consensual and non-consensual – was fragile, but what was important was that the Committee had been able to adopt recommendations for its second meeting, thus giving the negotiations an impetus that some people hoped would lead to the adoption of substantial elements capable of being used during the Review Conference. In other words, truly “preparatory” work.

This attitude showed the general wish to continue the dialogue in order to enrich the consensus on nuclear non-proliferation for the 2000 Conference.

This embryo consensus broke down in Geneva in 1998 at the second meeting chaired by Ambassador Wyzner (Poland – representing the group of Eastern European states) attended by representatives of 97 states.

This second meeting ended with what could cautiously be called a “partial success”. It did not prove possible to enrich and improve the document drawn up by the Chairman of the first meeting by moving aspects of the non-consensual part towards the consensual part, as some had hoped in 1997.

The enrichment process was literally “blocked” by the discussions on the Middle East question, marked by lively confrontation between the American delegation and those of the Arab countries. There is no need to describe this debate here, since its content is well known. The result was that the second meeting, unlike the first, did not adopt any recommendations for the third meeting.<sup>15</sup>

The third meeting held in 1999 under the chairmanship of Ambassador Reyes (Colombia – representing the group of non-aligned countries) improved on the second meeting by producing a few results. We shall describe them briefly here.

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14. The programme for strengthening safeguards, launched in 1993, resulted in 1997 in the adoption of a Model Protocol additional to the safeguards agreements concluded between States and the IAEA. This document is set out in INFCIRC/540 (corrected). Its objective is “to promote nuclear non-proliferation by strengthening the effectiveness and improving the efficiency of the Agency's safeguards system” by making it possible to detect clandestine activities that might take place in Member States.

15. Report by the Preparatory Committee on the work of its second meeting NPT/CONF.2000/PC.II/36 dated 9 June 1998.

The Committee adopted<sup>16</sup> all the procedural and organisational points (including the appointment of Ambassador Selebi of South Africa to chair the 2000 Conference, the provisional agenda for that Conference, and the allocation of subject matter to the three committees), which enabled the Review Conference to be held and in itself constituted a success. On the other hand no recommendation of substance was addressed to the Conference and this could be called a failure.

One may ask whether it is still right to apply the term “failure” to the strengthened review process decided upon in 1995.

One might be tempted to reply “yes” to this question if one considers the objective of the process, since it was in fact a question of dealing with matters of substance, in addition to procedural items, as part of this strengthened review. The Preparatory Committee did not manage to do this at its meetings held in 1997, 1998 and 1999.

To take a more optimistic point of view, the Preparatory Committee is still an arena for political dialogue between the Parties, as well as with the non-governmental organisations, which are invited to take part in certain meetings and arrange their own discussions in parallel with those of the Preparatory Committee. This kind of dialogue can make it possible, during the five years between each Review Conference, to avoid the build-up of frustration on topics as sensitive as that of nuclear disarmament.

The period 1995-2000 was marked by the determination of all the Parties to preserve the equilibrium of the Treaty, first of all during the 1995 Review Conference and then, to continue the success of that Conference, in the – uncertain – process of strengthening the review of the Treaty. The question we should like to raise in conclusion is whether this desire to preserve an equilibrium will withstand the tensions that will mark the forthcoming Review Conference where the issues will no longer be the same as in 1995, the indefinite extension of the Treaty having been achieved.

The Review Conference will be held in New York in April-May 2000, finally under the chairmanship of Ambassador Baali (Algeria).

The subjects of nuclear disarmament and the Middle East will be substantial items on the agenda.

With regard to the Middle East, the climate of discussion is likely to depend strongly on the progress made with the Wye River agreements, relaunched in September 1999 following the coming to power of Mr. Barak in Israel.

If the peace process is renewed, one may hope that the discussions between the Arab and American delegations will be less scathing than they were at the second meeting of the Preparatory Committee.

With regard to nuclear disarmament, as we have tried to show here, the Preparatory Committee reached no conclusion, and the different sides today remain fixed in their positions. Some are seeking a start to the “cut-off” negotiations and a continuation of the American/Russian disarmament process

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16. See NPT/CONF.2000/PC.III and addenda.

begun with START,<sup>17</sup> quite apart from the efforts already made (notably unilaterally in the case of France<sup>18</sup>).

Other – more radical – states are calling for the process to be speeded up with, for example, the adoption of a firm timetable involving the five nuclear weapon states; yet others are more pragmatically considering an intermediate approach, similar to that of the Tokyo Forum.<sup>19</sup>

In this area, it seems doubtful that there will be any change in the situation before next April. Progress is therefore expected to be modest.

In a highly unfavourable international situation (tests conducted by India and Pakistan, no ratification of the CTBT,<sup>20</sup> controversy about the ABM Treaty<sup>21</sup>), the problem will be to avoid any stiffening of the most active partisan positions on nuclear disarmament and to identify ways and means for continuing the dialogue.

The question of anti-missile defence systems, raised again by the United States, is liable to complicate the discussions appreciably with considerable opposition between the United States and China and the United States and Russia. The recent refusal by the US Senate to ratify the CTBT is also likely to make the negotiations more difficult.

The SMCT could – if negotiations were to begin in Geneva – form the basis of a “new nuclear compromise”, of which it would represent a first step, not only in meeting the hopes of some people for a less nuclear world but also in maintaining the strategic interests of those who continue to believe in nuclear weapons as part of their defence policy.

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17. One may wonder about the term “disarmament agreements” commonly applied to these agreements on the reduction of strategic weapons, for since they apply only to the elimination of missiles and not the dismantling of the nuclear warheads (and fissile materials) they carry, they have in fact merely brought about parity between the two major powers.
  18. In November 1992 France stopped producing plutonium for nuclear weapons; in January 1996 it conducted its last nuclear test; and in February of the same year the President of the Republic announced the final closure of the facilities producing fissile material for nuclear weapons and of the experimental centre in the Pacific. In June 1996 France shut down the production of highly enriched uranium for nuclear weapons. In June 1997 the last HADES missile (mobile, short-range ground-to-ground missile) was destroyed and 1998 saw the completion of the decommissioning of the installations at the Pacific experimental centre and the site on the plateau d’Albion (S3D ground-to-ground strategic missiles site) leaving a limited nuclear arsenal reduced to two components (submarine and airborne).
  19. “Facing nuclear dangers: an action plan for the 21st century” – The report of the Tokyo Forum for nuclear non-proliferation and disarmament – Tokyo – 25 July 1999 – Japan Institute of International Affairs – Hiroshima Peace Institute.
  20. “*Le traité d’interdiction complète des essais nucléaires est dans l’impasse*”, *Le Monde*, 8 October 1999.
  21. American-Russian Treaty on the limitation of anti-missile systems dated May 1972 that could be threatened by American plans to deploy an anti-missile defence system.



# CASE LAW AND ADMINISTRATIVE DECISIONS

## CASE LAW

### **Belgium**

#### *Judgement allowing the return of nuclear waste from France (2000)*

Following an application for interim proceedings lodged by the ecological association Greenpeace with a view to prohibiting the first repatriation of nuclear waste from France, the Court of Dendermonde, in its judgement of 2 April 2000, had prevented the return to Dessel of vitrified waste resulting from the reprocessing of Belgian nuclear fuel at the Cogema plant in La Hague. The judge had forbidden the SNCB (the Belgian railway network), Synatom (a subsidiary of Electrabel, the legal owner of the waste) and the Belgian state “from carrying out any action which could facilitate the transport, or from arranging any such transport, of nuclear waste”, on the grounds that there was no emergency plan which would apply in the event of an accident.

The Minister for the Interior appealed this decision through interim proceedings on the grounds that the necessary safety measures had been taken. On appeal, the Court of Dendermonde overruled the first judgement, on 4 April 2000.

The return of the waste, which took place on 5 April 2000, is to be the first of fifteen transport operations planned over the next ten years.

### **France**

#### *Council of State Judgement on the Risk Analysis within the Licensing Application (1999)*

The Administrative Court of Appeal of Lyon, in its judgement of 21 January 1992 concerning a licensing application for the storage of uranium sesquioxide, ruled that the environmental impact study for an installation classified for purposes of environmental protection must contain an analysis of the effects of the installation on the environment, not only under normal operating conditions but also in the case of an externally-caused accident liable to affect this installation. In doing so, this judgement did not clearly distinguish between the risk analysis and the environmental impact study.

The Council of State overruled this decision in its judgement of 7 July 1999, on the grounds that the Court of Appeal had incorrectly interpreted the law in stating that the impact study was in breach

of the regulations, as it did not contain an analysis of the exceptional environmental consequences which would result for example from an accident or an aeroplane crash.

The Council of State pointed out that the analysis which identifies the risk an installation can constitute in the event of an accident, which must be included in the document required under paragraph 5 of Section 3 of Decree No. 77-1133 of 21 September 1977 adopted in implementation of Act No. 76-663 of 19 July 1976 on installations classified for environmental protection purposes (see *Nuclear Law Bulletin* Nos. 18, 36 and 39), is not amongst the information which must be included in the impact study. The latter is simply required to draw attention to the effects that the project is likely to have on the environment.

The Council of State furthermore confirmed the decision of the Marseilles Administrative Court to annul the authorisation order, on the basis of an insufficient risk analysis, in relation to the emergency measures at the disposal of the establishment. Having regard to the installation's role as a storage facility for sensitive materials, the Council of State criticised the risk analysis for not giving sufficient details on the composition of the intervention teams mentioned in the study, their localisation and availability, on the type and extent of material equipment at their disposal and on the organisation of possible emergency aid.

### ***Judgement of the Cour de Cassation on the Operation of a Classified Installation without a Licence (1999)***

The criminal chamber of the *Cour de Cassation* (French Supreme Court), in its judgement of 13 April 1999, ruled that production in excess of that authorised in the licence, carried out by an installation classified for environmental protection purposes, can be compared to carrying out operations without a licence. This offence represents a failure to respect a safety regulation and, in the event of an accident, can justify a condemnation for manslaughter.

## **Japan**

### ***Rejection of claims calling for permanent closure of the Monju reactor (2000)***

On 22 March 2000, the Fukui District Court rejected a lawsuit filed by local residents calling for the permanent closure, on safety grounds, of Japan's prototype fast-breeder nuclear reactor, Monju, located in Tsuruga, Fukui Prefecture.

The construction of Monju began in 1985 and was completed in 1991. After its first brief period of electricity production in August 1995, a coolant leak and ensuing fire in December 1995 led to its closure. Operations have been suspended since that date.

The lawsuit, which comprised both administrative and civil actions, was filed in September 1985, one month before the beginning of the construction of the reactor, by approximately 40 local residents. The administrative action consisted of a claim against the Prime Minister to invalidate his permission granted for construction, based on a flaw in both safety evaluation standards in general and the evaluation of Monju in particular. The civil action consisted of a claim against the Japan Nuclear Cycle Development Institute (JNC), the constructor and operator of Monju, calling for cessation of construction and operation in light of the risk posed to the plaintiffs' lives and health.



On the administrative aspects, Presiding Judge Iwata of Fukui District Court ruled that there was no procedural illegality in the government's procedure for issuing the Monju licence and no recognisable flaw in safety evaluation standards or the government's evaluation of Monju against those standards, including seismic criteria. Judge Iwata further ruled that the sodium leakage accident in 1995, which was attributed to corrosion caused by poor design, did not prove the safety standards were wrong. On the civil law aspects, he rejected the claim by stating that even after taking the sodium leak into account, "it is unlikely that an accident that releases a large amount of radioactive substances into the environment will occur (at the plant) or that the reactor poses any visible danger of infringing upon the lives or health of the plaintiffs".

The case took so long because the plaintiffs first had to establish their legal right to sue, which took almost seven years. It took until September 1992 before the Supreme Court recognised their *locus standi* and referred the case to the Fukui District Court.

Following this judgement, the Chairperson of JNC stated that full efforts would be made to promptly resume operations in Monju.

The plaintiffs filed an appeal against both lawsuits with the Nagoya High Court on 24 March 2000.

## **Netherlands**

### ***Decision of the Council of State invalidating the limitation in time attached to the operating licence of the Borssele plant (1999)***

The Council of State, the supreme administrative court in the Netherlands, ruled on 24 February 2000 that the Dutch Government had no legal basis for limiting the operating licence of the Borssele Reactor (450 MW) to 2004 in exchange for compensation for the operating utility, EPZ.

This ruling ensued from a challenge initiated on 10 December 1999 by a group (the so-named "Foundation Borssele 2004+"), mostly personnel of the plant, against the agreement concluded in 1997 between the government and SEP, which was at the time the parent company of EPZ, on the future of this unit. This agreement provided that the reactor could only be exploited until the end of 2003. The Dutch parliament voted in favour of shutting down Borssele at the end of 2003, even though the operating licence had been renewed four months earlier and no expiry date had been specified. However, as the utility had invested a substantial sum of money in a comprehensive upgrade programme in 1994, and because the design lifetime of the plant was not due to expire until 2013, the parliament approved compensation for EPZ for a fraction of the money invested in the upgrade. The Foundation Borssele 2004+ claimed that the government's decision was invalid because it modified the existing operating licence, unlimited in time, and because no environmental impact study was carried out as required by the Nuclear Energy Act. Given that the closure of the only nuclear power plant in the country would lead to the increase of energy production in fossil fuel plants, it claimed that this measure would lead to environmental consequences which should be taken into consideration pursuant to the applicable legislation.

The Council of State declared that the expiry date of the amended operating licence issued in 1997 is invalid. It stated that the Nuclear Energy Act specified on which grounds a nuclear licence can be revoked. The decree to shut down the reactor had not been reviewed on these grounds and therefore had no legal basis.

### ***Decision of the Council of State rejecting licences for storage and transport of nuclear fuel (1999)***

On 29 November 1999, the Council of State, the supreme administrative court in the Netherlands, rejected licences issued by the government for storage and transport of spent fuel from two of the country's reactors, stating that they contained insufficient justification and too little public information about the chosen transport routes. The Council of State ruled in favour of the plaintiff, Greenpeace, which sought to prevent the spent fuel shipments from the decommissioned Dodewaard BWR to BNFL's Sellafield plant for reprocessing. The court also nullified a licence issued to national radwaste company Covra for storage of spent fuel from the European Commission's High-Flux Reactor at Petten.

The Council of State ruled that the licences failed to comply with the Nuclear Energy Act which requires justification of any nuclear activity and allows for public intervention. It stated that the ministry's licences did not demonstrate that the transports were justified in terms of radiation protection. Moreover, since the licence failed to provide details on the route from Dodewaard to the port of Vlissingen, the court said it would be impossible for Dutch citizens along that route to intervene, as they are entitled to by law.

## **United States**

### ***Decision rejecting a request to bar MOX fuel shipment (1999)***

On 17 December 1999, the US District Court of the Western District of Michigan denied the plaintiffs' request for a preliminary injunction barring the Department of Energy (DOE) from shipping mixed-oxide (MOX) fuel containing a small quantity of weapons-grade plutonium to Canada. This shipment of nine MOX assemblies which are to help determine whether Candu reactors can use such fuel is part of the non-proliferation project called Parallex which is carried out by the DOE and Russia. Russia is also to ship nine MOX assemblies to Canada.

The Court rejected the request on the grounds that the shipment reflects a policy decision made by the Federal administration and that disagreements over policy decisions should be settled by elected officials rather than by the courts.

Moreover, against the plaintiffs' charge that the DOE should have examined the environmental impact of the MOX shipment carried out by Russia to Canada along the US boundary, the Court ruled that this shipment is the subject of a trilateral agreement among the US, Canada and Russia, and therefore the US exercises some control over the shipment. The Court noted that, as the environmental impact assessment which the DOE carried out on its own MOX shipment recognised that an accident involving the American shipment of MOX might have transboundary effects on the Canadian population, it would have been logical that it also take account the possibility that an accident involving the Russian MOX shipment might also have transboundary effects on the American population.

## European Union

### *Lirussi v. Bizzaro (1999)*

In the context of the criminal procedures instituted against Mr. Lirussi and Mrs. Bizzaro who are charged with having stored waste under irregular conditions, an Article 177 reference was made to the European Court of Justice on four questions in relation to the interpretation of Council Directive 75/442/EEC of 15 July 1975 on waste, as amended. In a Judgement of 5 October 1999, the Court defines the notion of “temporary storage” of waste of all types and the legal regime governing this kind of storage.

Pursuant to the Article 177 reference, the Court was to rule on several points: it was requested, on the one hand, to determine whether the meaning of “temporary storage” is different from that of “storage of waste pending further operations” and whether it is considered as a “management activity”; and, on the other hand, whether the competent national authorities are required, in respect of temporary storage activities, to ensure compliance with the requirements set out in Article 4 of Directive 75/442/EEC, namely to ensure that waste is disposed of without endangering human health and without harming the environment and to take the necessary measures to prevent the abandon, release and uncontrolled disposal of waste.

On the first point, the Court stated that these concepts are different on the grounds that “storage pending further operations thus forms part of the disposal or recovery of waste, whilst temporary storage pending collection is expressly excluded.” Temporary storage activities are therefore defined as an activity preceding a waste management activity. Such temporary storage should then not be subject to the provisions of Directive 75/442/EEC. However, ruling on the second point, the Court noted that Article 4 of Directive 75/442/EEC aims to implement the principles of precaution and preventive action set out in Article 130r of the EC Treaty. Therefore, to the extent that waste, even stored temporarily, may cause significant harm to the environment, the provisions of Article 4 of the Directive, which aim to implement the principle of precaution, should also apply to the temporary storage activity.

## European Court of Human Rights

### *Athanassoglou and Others v. Switzerland (2000)*

The European Court of Human Rights, in its judgement of 6 April 2000, confirmed its case law as established in *Balmer-Schafroth and Others v. Switzerland*, judgement of 26 August 1997 concerning the Swiss Federal Council’s decision to extend the operating licence of the Mühleberg nuclear power plant in the Canton of Bern (see *Nuclear Law Bulletin* No. 60). The Court had declared in that case that Swiss law did not violate the appellants’ civil rights in refusing to provide for the possibility of appealing government decisions on the licensing of nuclear power plants in court.

Following the government’s decision of 12 December 1994 to extend the licence of the *Nordostschweizerische Kraftwerke AG* (“NOK”) to operate the Beznau nuclear power plant in the Canton of Aargau for a further ten years, twelve Swiss nationals living in the vicinity of the plant lodged an application with the European Commission of Human Rights against the Swiss Confederation. In order to contest the Federal Council’s decision, the applicants claimed that they were denied effective access to a court, in breach of Article 6(1) of the European Convention on

Human Rights, also invoking that under the terms of Article 13 of the Convention, no effective remedy was available to them enabling them to complain of violations to their right to life and their right to respect for bodily integrity. In its report of 15 April 1998, the Commission expressed the opinion that none of these provisions were violated.

The case was then referred to the European Court of Human Rights. The Court, confirming the Commission's decision, rejected the appeal on the grounds that the connection between the Federal Council's decision and the rights of the applicants to protection of their civil rights (right to life, physical integrity and property) recognised in Swiss domestic law was too tenuous and remote to attract the application of Article 6(1). In respect of the invocation of this Article in order to contest the very principle of the use of nuclear energy, the Court considered that "how best to regulate the use of nuclear power is a policy decision for each Contracting State to take according to its democratic processes". For the same reasons, the Court ruled that Article 13 of the Convention is inapplicable in this case.

In light of this judgement, the Swiss authorities will soon reconsider, during the amendment of the Atomic Act, the possibility of including a right to appeal decisions on the licensing of nuclear power plants before national courts.

## ADMINISTRATIVE DECISIONS

### Argentina

#### *Decision on the establishment of the Interministerial Commission for Atucha II (2000)*

Law No. 28.804 of 1997 on Nuclear Activities (see *Nuclear Law Bulletin* No. 59) and its implementing Decree No. 1390 of 1998 (see *Nuclear Law Bulletin* No. 63) provided for the privatisation of the Atucha I and Embalse nuclear power plants as well as the completion of construction and commissioning of the Atucha II NPP. In this respect, Administrative Decision No. 13/2000 of 7 February 2000 provides for the establishment of an Interministerial Commission for Atucha II, which will aim to examine the prospects of completing construction of this NPP and to propose a solution concerning its "final fate" (completion, postponement or redirecting of construction work). This Commission is headed by the Secretary of State for Technology.

Until now, only the National Atomic Energy Commission has drawn up a study ("Atucha II and nuclear policy") which is in favour of completing the construction of Atucha II. However, as long as the Secretary of State for Energy has not made his opinion known, the final decision of the government will be uncertain.

## Sweden

### *Agreement between Sydkraft, Vattenfall and the Swedish Government on a compensation plan for the early shutdown of Barsebäck unit 1 (1999)*

Following the Swedish Government's Decision of 5 February 1998 to shut down unit 1 of the Barsebäck nuclear power plant and the judgement of the Supreme Administrative Court of 16 June 1999 confirming this Decision (see *Nuclear Law Bulletin* No. 64), this unit equipped with a 600 MW boiling water reactor was permanently shut down on 30 November 1999.

At the same time, the private electricity utility Sydkraft, owner of the installation, the state-owned utility Vattenfall and the Swedish Government approved a compensation plan in respect of the early shutdown of Barsebäck unit 1 and commenced negotiations on the shutdown of unit 2. This Agreement has yet to be approved by the Swedish Parliament; however in the meantime, the Parties will act as if it were already approved.

Under the Agreement, Barsebäck Kraft AB (BKAB), the subsidiary of Sydkraft which operates the two reactors, will sell them to Sydsvenska Vaerme Kraft AB (SVKAB), also a wholly owned subsidiary of Sydkraft. SVKAB will merge with the Ringhals NPP which belongs to Vattenfall in order to form one single utility. Sydkraft, through SVKAB, will own 25.8% of the new company and Vattenfall 74.2%. Barsebäck 2 will continue to operate under the management of the new utility Ringhals/Barsebäck. If this unit is to be shut down, Sydkraft's share in the new company will reach 30.2%, in which case Vattenfall will receive additional financial compensation from the state.

Under the Agreement, in return for relinquishing part of its production capacity, Vattenfall will receive compensation of approximately Swedish kronor (SEK) 5.65 billion in total, including SEK 2.64 billion in cash from the state to be paid over a four-year period beginning in 2000, the value of Vattenfall's share in the new company and an annual payment from Sydkraft to cover the difference in production costs between Ringhals and Barsebäck. For its part, Sydkraft should receive SEK 113 million.

The state will also pay the new company SEK 1.1 billion for decommissioning costs specifically associated with the early shutdown of unit 1 and up to SEK 2.2 billion to cover the higher operating costs of Barsebäck 2.

Sydkraft will be responsible for normal decommissioning costs at Barsebäck and Vattenfall, for Ringhals, in accordance with Swedish law on this subject (1981 Act on Financing Future Expenditure for Spent Nuclear Fuel – see *Nuclear Law Bulletin* No. 29) which states that each reactor owner is responsible for the handling of spent fuel and nuclear waste and for its decommissioning.

Whereas the government had ordered that unit 2 of Barsebäck be shut down by 1 July 2001, on 30 November 1999 it indicated that the reactor will only be shut down when production capacity replacement is ensured. The shutdown of Barsebäck 1 will cause a shortage of up to 4 billion kWh in annual electricity production. This loss will have to be compensated primarily by the import of electricity from Danish and German coal-fired stations.

## Switzerland

### *Rejection of the constitutional initiative requesting shutdown of the Mühleberg nuclear power plant by the government of the canton of Bern (1999)*

On 7 June 1999, the *Bern ohne Atom* (Bern without Atoms) Committee provided the State Chancellery with a petition for a cantonal initiative to oblige the government of the canton, by popular opinion, to do anything within its power to ensure that the Mühleberg NPP, owned by BKW FMB Energy SA, be shut down as quickly as possible.

The government of the canton of Bern rejected this initiative on the grounds, first, that the supervision of nuclear installations and the guarantee of their safety are within the competence of the Confederation, and that the Federal Council had extended, in October 1998, the operating licence of this NPP until 2012 (see *Nuclear Law Bulletin* No. 63). It also considered that such an initiative directly interferes with the commercial policy of a private enterprise.

The cantonal government furthermore ruled that early shutdown would have negative consequences on the economy in Bern. According to its estimations, it would lead to an annual loss of added value of some Swiss francs (CHF) 50 million as well as the loss of 300 highly qualified jobs.

Finally, the early shutdown of the plant is deemed questionable in relation to ecological and energy policy. The production of this plant represents 40% of the electricity needs of FMB's customers, and only a limited quantity of the production could be compensated through energy savings and increased use of renewable energy sources. The demands would principally have to be covered by electricity imports, which raises ecological concerns.

For these reasons, the Bern Government rejected the cantonal initiative and proposed to the Federal Council to submit it to the electorate without a counter-proposal. This issue should be submitted to the public on 23 and 24 September 2000.

# NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

## **Armenia**

### ***General Legislation***

#### *Law for the Safe Utilisation of Atomic Energy for Peaceful Purposes (1999)*

This Law was adopted on 1 February 1999 and entered into force on 1 March 1999 (see *Nuclear Law Bulletin* No. 63). The text of this legislation is reproduced in the Supplement to this *Bulletin*.

### ***Organisation and Structure***

#### *Decree on State Regulation of Nuclear and Radiation Safety in relation to the Use of Atomic Energy (2000)*

The above Decree (No. 70) was adopted by the Armenian Government on 19 February 2000 and entered into force at the same date.

It confirms that the Armenian Nuclear Regulatory (ANRA) is the competent authority for state regulation of nuclear and radiation safety in relation to the use of atomic energy, under the terms of Articles 7 and 8 of the 1994 Convention on Nuclear Safety.

### ***Radiation Protection***

#### *Law on Public Protection in Emergency Situations (1998)*

This Law was adopted on 2 December 1998 and entered into force on 29 December 1998. This legislation establishes the principles governing measures or activities carried out in emergency situations with a view to ensuring protection of the public. It determines jurisdiction of the state and local authorities, and other organisations, and identifies the rights and responsibilities of citizens in this field. This Law also contains provisions on the actions of the emergency forces, the financing of public protection measures and liability for breaches of this legislation.

## **Belarus**

### ***Radiation Protection***

#### *Decree establishing a Uniform State System of Accounting and Control of Radiation Sources (1999)*

On 4 October 1999, the Council of Ministers adopted Decree No. 1537 establishing a Uniform State System of Accounting and Control of Radiation Sources. This Decree provides that the Committee for Supervision of Industrial and Nuclear Safety (*Promatomnadzor*) is responsible for establishing and implementing this system of accounting and control. It furthermore requires all users of radiation sources to submit technical information on sources in their possession to the Committee. The Decree defines the criteria governing the registration of radiation sources, the volume of information to be submitted and the responsibilities of the Committee in relation to the implementation of this system.

## **Brazil**

### ***Organisation and Structure***

#### *Decree on Bodies within the Federal Public Administration (1999)*

Decree No. 3.280, which was adopted on 8 December 1999 and entered into force upon its publication in the Official Journal of 9 December 1999, repeals Decree No. 3.131 of 9 August 1999 (see *Nuclear Law Bulletin* No. 64). Pursuant to the terms of the Annex to this Decree, the National Nuclear Energy Commission (CNEN) remains attached to the Ministry of Science and Technology, as was stated in Decree No. 3.131, and it continues to carry out its statutory duties.

### ***Regime of Nuclear Installations***

#### *Resolution of the CNEN on Protection against Fire in Nuclear Power Plants (1999)*

Resolution No. 13 of the National Nuclear Energy Commission (CNEN), adopted on 16 September 1999, officially approves the Standard CNEN-NN-2.03 on protection against fires in nuclear power plants (Official Journal of 21 September 1999) and replaces the Provisional Standard CNEN-NE-2.03 on the same subject.

This Resolution establishes the applicable criteria and requirements for the protection against fires which may occur during construction or operation of nuclear power plants, and aims to prevent or to limit the consequences of such fires.



### *Resolution of the CNEN on Quality Assurance for Nuclear Power Plants (1999)*

Resolution No. 15 of the National Nuclear Energy Commission (CNEN), adopted on 16 September 1999 (Official Journal of 21 September 1999) provides for the following:

- repeal of the Provisional Standard CNEN NE-1.16 – Quality assurance for nuclear power plants;
- repeal of the Standard CNEN-NN-1.12 – Classification of independent technical control bodies and the Nuclear Standard CNEN-NN-1.15 – Independent technical control during quality assurance activities in nuclear power plants;
- approval of the amendments to the Standard CNEN-NN-1.27 – Quality assurance in relation to the acquisition, design and manufacture of fuel elements;
- approval of the Standard CNEN-NN-1.16 – Quality assurance in relation to the safety of nuclear power plants and other installations;
- approval of the Standard CNEN-NN-1.28 – Classification and role of independent technical control bodies for nuclear power plants and other installations.

The Standard CNEN-NN-1.16 – Quality assurance in relation to the safety of nuclear power plants and other installations – establishes those requirements which must be carried out in the installation and during the implementation of a system of quality assurance for nuclear installations and power plants and for radioactive installations. Pursuant to Section 1(2), this Standard applies to activities which may affect the safety of nuclear installations during their siting, design, construction, operation or decommissioning. At the construction and operation stage, the requirements set out in this Standard are complementary to those established in Standard CNEN-NE-1.26 – Safe operation of nuclear power plants.

Standard CNEN-NN-1.28 – Classification and role of independent technical control bodies for nuclear power plants and other installations – aims to set out conditions required by the CNEN in respect of the classification of an entity as an independent technical control body in the specific context of nuclear or radioactive activities.

### ***Regime of Radioactive Materials***

#### *Resolution of the CNEN on the Control of Nuclear Materials (1999)*

Resolution No. 11 of the National Nuclear Energy Commission (CNEN), adopted on 16 September 1999, on the control of nuclear materials (Official Journal of 21 September 1999), which repeals the Provisional Standard CNEN-NE-2.02 – Control of nuclear materials, certain specified equipment and materials (see *Nuclear Law Bulletin* No. 30), approves the Nuclear Standard CNEN-NN-2.02 – Control of nuclear materials.

This Standard sets out the general principles and basic requirements applied by the CNEN in relation to the control of nuclear materials. It applies to all activities involving the use of nuclear materials on the national territory.

## **Canada**

### ***General Legislation***

#### *Nuclear Safety and Control Act (1997)*

The Nuclear Safety and Control Act entered into force on 31 May 2000, upon the adoption of a series of regulations establishing detailed requirements that are to apply to various nuclear activities (see *Nuclear Law Bulletin* No. 60 for a description of this legislation, and the Supplement to *Nuclear Law Bulletin* No. 60 which reproduces the text of the Act). In particular, the Nuclear Safety and Control Act dissolves the Atomic Energy Control Board and replaces it with a new Canadian Nuclear Safety Commission. Further details will be provided on this legislation and its implementing regulations in *Nuclear Law Bulletin* No. 66 (December 2000).

## **People's Republic of China**

### ***Organisation and Structure***

#### *Restructuring of the Public Nuclear Sector in China (1999)*

The China National Nuclear Corporation (hereinafter referred to as “the former CNNC”), responsible for the promotion and development of nuclear energy (see *Nuclear Law Bulletin* No. 61), has been divided into two separate enterprise groups, namely the China Nuclear Industry Group Corporation (which retains however the acronym CNNC) and the China Nuclear Engineering & Construction Corporation (CNEC). The establishment of both Corporations was approved by the State Council on 1 July 1999.

The larger of the two groups, the newly-established CNNC, a state-owned conglomerate which now controls all nuclear matters outside the construction sector and comprises 246 enterprises and institutions.

The CNEC is a state-owned enterprise group under the direct supervision of the State Council which replaces the former CNNC's construction and installation Bureau and consists of 13 separate business units.

The former CNNC's administrative functions have been transferred to the State Commission of Science, Technology and Industry of National Defence. The China Atomic Energy Authority, which is an integral part of this Commission, is responsible for the management of the peaceful uses of nuclear energy and the promotion of international co-operation.

## ***Regulations on Nuclear Trade***

### *Regulations on the Export Control of Nuclear Dual-Use Items and Related Technologies (1998)*

These Regulations were adopted at the Fourth Executive Meeting of the State Council on 1 June 1998 and promulgated by Decree No. 245 of the State Council of the People's Republic of China.

The Regulations aim to strengthen export control over nuclear dual-use items and related technologies, to prevent the proliferation of nuclear weapons, to promote international co-operation in relation to the peaceful utilisation of nuclear energy and to safeguard state security and social and public interests. In order to fulfil these objectives, the state is empowered to establish a licensing regime governing the export of nuclear dual-use items and related technologies which shall incorporate the following principles:

- receiving parties shall not use nuclear dual-use items and related technologies which have been supplied by China for the purpose of carrying out a nuclear explosion;
- receiving parties shall not use nuclear dual-use items and related technologies which have been supplied by China in any nuclear facilities which are not subject to International Atomic Energy Agency safeguards; and
- receiving parties shall not transfer to a third party nuclear dual-use items and related technologies which have been supplied by China without a permit from the Chinese Government.

The Regulations establish a system of state registration and examination for those involved in the export of nuclear dual-use items and related technologies. They further set out those liabilities and penalties which shall be incurred in the event of breach of its provisions.

## **Hong Kong, China**

### ***Third Party Liability***

#### *Adaptation of the Ordinance on Nuclear Materials (1999)*

An Ordinance to bring various laws into conformity with the Basic Law and with the status of Hong Kong as a Special Administrative Region of the People's Republic of China (No. 64 of 1999), hereinafter referred to as the "Adaptation of Laws (No. 27) Ordinance 1999", was enacted by the Legislative Council on 4 November 1999.

Schedule 12 of this Ordinance modifies a number of terms in the Nuclear Material (Liability for Carriage) Ordinance No. 44 of 16 June 1995 as a consequence of the retrocession of Hong Kong to China. This Ordinance is the legislative instrument which applies specifically to third party liability in respect of nuclear damage caused in the Hong Kong Special Administrative Region (HKSAR). It incorporates into HKSAR legislation the pertinent provisions of the Paris Convention to the extent appropriate for the special situation of Hong Kong. The main practical effect of this legislation is that,

in the absence of nuclear installations on that territory, liability for damages arising from a nuclear incident occurring in the course of transport of nuclear substances governed by the Paris Convention would be imposed upon either the sending or receiving operator, depending on the circumstances. Essentially, the changes introduced by Ordinance No. 27 involve the replacement of the term “country or territory” by “country, territory or place” and the term “Governor” by “Chief Executive”.

## Croatia

### *Radiation Protection*

#### *Act on Protection against Ionising Radiation (1999)\**

The Act on Protection against Ionising Radiation was adopted by the Croatian Parliament on 5 March 1999 and entered into force on 28 March 1999. The text of this Act is reproduced in the Supplement to this Bulletin. The new legislation replaced the provisions governing ionising radiation in the Act on Radiation Protection and the Safe Use of Nuclear Energy of 1984. The Act is comprised of 10 Chapters divided into 54 Articles.

Chapter I is devoted to the scope of application and definitions of the terms used in the Act. Its Article 1 establishes the principles governing ionising radiation protection, the course of conduct to be taken in emergency situations, the treatment of radioactive waste and supervision of the implementation of ionising radiation protection measures, with a view to reducing the risk to the life and health of the public as well as to the environment.

Chapter II establishes the three basic principles applicable in this field: justification, optimisation and limitation of exposure to radiation [Articles 5 to 8].

Article 9, under Chapter III of the Act, provides that the safety measures which should be taken in order to ensure radiation protection include, *inter alia*:

- systematic examination and detection of the presence, type and extent of ionising radiation and radioactive sources in the environment;
- establishment of external and internal limits of the exposure of the public to ionising radiation; provision of equipment and devices for radiation protection;
- establishment of conditions governing siting, construction and operation of facilities where ionising radiation sources are used, activities involving such ionising radiation, and implementation of emergency response;
- storage, treatment, management and final disposal of radioactive waste;
- education and advanced training of personnel in the field of radiation protection, and examination and permanent control of the health of radiation workers;

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\* This note has been kindly prepared by Mr. V. Šoljan, Chair of Trade and Economic Law, Faculty of Economics, University of Zagreb.

- record-keeping in relation to accounting for ionising radiation sources and exposure of radiation workers, patients and other members of the public.

The Act sets out an effective dose limit for occupational exposure, which is set at 100 mSv during a five year period, or approximately 20 mSv per year, on condition that radiation exposure does not exceed 50 mSv during any one given year [Article 11]. The dose limit for persons not engaged in activities involving ionising radiation sources is set at 1 mSv annually [Article 14]. The limitation of exposure to the ionising radiation does not apply to radiation exposure of patients for medical purposes [Article 13].

Persons working with ionising radiation sources are required to have special education in the field, either through their regular course of training or by attending a supplementary educational programme organised by the Croatian Agency for Radiation Protection [Article 15]. The Act also lays down requirements with regard to the health conditions of radiation workers [Articles 16 and 17]. Facilities, equipment and installations which contain ionising radiation sources, or which are used for radiation activities, as well as protection devices, must comply with the requirements for the protection of persons and the environment, as established by the Minister of Health [Article 26].

Activities involving radiation sources are subject to the delivery of a licence from the Minister of Health. The Act sets out the applicable requirements to obtain such a licence [Articles 23 to 25]. The licensee must designate a person responsible for ionising radiation protection, and the qualifications required for this person are established in this legislation [Article 26].

Article 31 sets out those “expert activities” which may be performed by legal entities, licensed by the Minister of Health. Such activities include measuring radioactivity in the atmosphere, soil, sea and inland waterways, monitoring the exposure of radiation workers or exposed patients and verifying measurement or protection equipment, providing expert opinion within the licensing regime, and carrying out periodical examinations of ionising radiation sources or activities related to radioactive waste management.

Chapter IV governs emergency situations, and the establishment of a national plan and programme of measures for ionising radiation protection in the event of a radiological emergency.

Chapter V concerns radioactive waste. The Minister of Health is entrusted with the regulation of the treatment and disposal of radioactive waste produced by the activities of licensees [Article 35]. The Act explicitly prohibits any import, treatment, storage or final disposal of radioactive waste originating from outside the Republic of Croatia [Article 36].

Chapter VI establishes the Croatian Agency for Radiation Protection as the competent body to perform expert activities with regard to radiation protection. The Agency reports to the Minister of Health annually on the implementation of radiation protection measures, and is competent to formulate standards and methods of monitoring ionising radiation protection, to support the scientific, statistic and other research activities in the field of radiation protection, to define the basic framework for educational programmes and to provide expert opinion in relation to the licensing of radiation sources [Article 37].

Chapter VII establishes the Commission for Radiation Protection, which consists of nine members nominated by the government, who shall be responsible for providing the government with proposals and opinions concerning radiation protection, both under normal circumstances and in the event of an emergency situation [Articles 40 to 42].

Chapter VIII provides that the Minister of Health is responsible for the administrative surveillance of the implementation of the provisions of this Act and of its implementing legislation. The Health Inspectorate of that Ministry is entrusted with inspections under this legislation. Penalties for breach of this Act's provisions are set out in Chapter IX [Articles 45 to 49]. The final Articles [Chapter X] provide that the Minister of Health shall adopt implementing regulations within a period of six months from the entry into force of this Act. The government shall enact the national plan and programme of measures for ionising radiation protection in the event of a radiological emergency within a period of one year from the entry into force of the Act [Article 50]. The Act is proclaimed as applicable six months after its entry into force [Article 54].

*Ordinance on the Conditions governing the Licensing of Expert Activities on Ionising Radiation Protection (1999)*

Pursuant to Article 31 of the Act on Protection against Ionising Radiation, the Minister of Health enacted the above Ordinance, which entered into force on 29 October 1999. The Ordinance sets out requirements concerning the qualifications of at least two employees of the licence applicant and the working conditions of facilities and equipment used for expert activities. The licence for expert activities is valid for five years from its date of issue. The Croatian Agency for Radiation Protection is responsible for keeping the register of all legal entities licensed to perform ionising radiation protection activities.

## **Estonia**

### ***Radiation Protection***

*Decree establishing a National Dose Register of Radiation Workers and the Procedure for Certifying Radiation Workers and for Issuing Certificates (1999)*

This Government Decree, adopted on 4 February 1999, determines the data necessary for the assessment of radiation doses resulting from occupational exposure. The procedure for certifying radiation workers and for issuing certificates governs the control of knowledge and professional qualifications of radiation workers with regard to the conditions and nature of the radiation activities concerned.

### ***Radioactive Waste Management***

*Decree establishing the Procedure for Management, Registration and Transfer of Radioactive Waste (1998)*

This Decree, adopted by the Minister of the Environment on 8 September 1998, imposes detailed requirements for radioactive waste management, governing, *inter alia*, storage and disposal of radioactive waste and radioactive waste management facilities. The Decree incorporates the requirements of the IAEA RADWASS Safety Standards to the extent appropriate for activities involving radioactive waste. The Decree sets out safety criteria for the siting, design and operation of waste management facilities.

## ***Regulations on Nuclear Trade***

### *Act on Export, Import and Transit of Strategic Goods (1999)*

This Act, adopted on 16 June 1999, states that export, import or transit of strategic goods is subject to a licence. Strategic goods include, *inter alia*, nuclear technology, related materials and facilities, nuclear waste and uranium ores. Licences for carrying out these activities are issued by an Interdepartmental Commission set up for this purpose.

## **France**

### ***Regime of Nuclear Installations***

#### *Amendment to the Tax Regime Applicable to Major Nuclear Installations (1999)*

Section 43 of the Finance Act for 2000 (No. 99-1172), which repeals Section 17 of the Finance Act for 1975 (revised) (No. 75-1242 of 27 December 1975) and Section 121 of the Finance Act for 1985 (No. 84-1208 of 29 December 1984), amends the existing tax regime applicable to major nuclear installations.

The Act provides that major nuclear installations subject to licensing and control pursuant to Section 8 of Act No. 61-842 of 2 August 1961 on measures against atmospheric pollution and odours, are subject to an annual tax as of 1 January 2000.

This tax is due by the operator from the time the construction licence for the installation is granted until the decision to remove that installation from the list of major nuclear installations is made. The amount per installation is calculated by multiplying a fixed amount of tax by a coefficient. The coefficients are established by decree of the Council of State depending on the type and importance of the installations. Within the category of nuclear reactors for the production of energy, the tax is due for each unit of the installation.

A table included in Section 43 of the Finance Act sets out the categories of installation, the amounts of the fixed tax, and the coefficients by which they should be multiplied.

#### *Decree on Major Nuclear Installations Classified as Secret (1999)*

Decree No. 99-873 on major nuclear installations classified as secret, adopted on 11 October 1999 in the Council of Ministers, provides for regulatory supervision of major nuclear installations involved in national defence, classified as secret by the Prime Minister (referred to in French as *installations nucléaires de base secrètes* – INBS)

Adopted pursuant to the Ordinance of 7 January 1959 on the general organisation of defence bodies, and Section 8 of the Act of 2 August 1961 on measures against atmospheric pollution and odours (which remains applicable to major nuclear installations), the Decree affects those installations which are under the aegis of the Ministry of Industry and the Ministry of Defence.

Until now, these installations, although subject in principle to the same technical rules and standards as major civil nuclear installations, were only subject to measures of control in the context of internal administrative procedures, involving the High Commissioner for Atomic Energy (*Haut-commissaire à l'énergie atomique* – HCEA) for installations under the aegis of the Ministry of Industry and, for the others, the services of the Ministry of Defence.

The technical criteria for classification are those of non-secret major nuclear installations [Section 2 of the Decree of 11 December 1963, as amended (see the Supplement to *Nuclear Law Bulletin* No. 12)]. The classification of a major nuclear installation as secret takes place when specific protection against the proliferation of nuclear weapons, malicious action or the disclosure of classified information is justified.

The Decree confirms and strengthens the central role of the HCEA, both in terms of his specific powers and those delegated from the ministers concerned. The HCEA therefore appears as the nuclear safety authority for all INBS.

The INBS are subject to a licensing, control and inspection regime, essentially inspired from the Decree of 11 December 1963 (with the exception of measures of publicity of course). The mechanism is basically implemented by the HCEA and under his authority. It should be pointed out in this respect that the control over releases of effluent and the management of waste are carried out without prejudice to the control exercised by the competent body for radiation protection, *i.e.* the Board for Protection against Ionising Radiation.

The INBS existing prior to the publication of this Decree are subject to its provisions, with the exception of those relating to the construction licence.

*Order setting out General Technical Rules to Prevent and Limit Pollution and External Risks resulting from the Operation of Major Nuclear Installations (1999)*

This Order was adopted on 31 December 1999 in implementation of Section 10 bis of the Decree of 11 December 1963 on nuclear installations, as amended, (see Supplement to *Nuclear Law Bulletin* No. 12). This provision stated that “general technical rules concerning the safety of major nuclear installations shall be issued in the form of an Order by the Minister for Industrial and Scientific Development”. It establishes general technical rules aiming to prevent and limit pollution and risks for the well-being of the neighbourhood, health, safety, public hygiene, agriculture, protection of nature and the environment and conservation of sites and monuments, resulting from the operation of major nuclear installations and major nuclear installations classified as secret.

This Order does not apply to installation classified for environmental protection within the perimeter of major nuclear installations, which are subject to the requirements set out pursuant to Sections 7, 10 and 10-1 of the Act of 19 July 1976 (see *Nuclear Law Bulletin* No. 18).

The principal requirements of this Order concern the following:

- control of noise and vibrations;
- prevention of atmospheric pollution;
- prevention of water pollution;



- management of waste;
- prevention of other risks, in particular fire and nuclear risks.

The Order sets out transitional provisions for existing installations, to which the provisions of this text will apply two years after its publication.

### ***Management of Radioactive Waste***

#### *Order setting out General Technical Rules on the Limits and Conditions governing Samples and Waste subject to Licensing, carried out by Major Nuclear Installations (1999)*

This Order, adopted on 26 November 1999, completes the regime established by Decree No. 95-540 of 4 May 1995 on releases of liquid and gaseous effluent, and on water samples, from major nuclear installations.

The Order sets out general technical rules which apply to samples and releases subject to authorisation in major nuclear installations. It also applies to samples and to releases from installations classified for environmental protection within their perimeter.

These requirements concern:

- limits and technical requirements applicable to water samples and liquid and gaseous releases;
- the means of analysis, measurement and control of authorised activities, as well as the supervision of their effects on the environment;
- provision of information to the public authorities on the samples and releases carried out, and on their effects on the environment;
- controls carried out by the Board for Protection against Ionising Radiation and State services;
- provision of information to the public.

The individual authorising orders should respect these general requirements as a minimum. They may contain more stringent provisions. These new requirements are applicable to sample and release authorisations and their amendments carried out after 5 January 2000.

The Order of 26 November 1999 provides for the repeal of seven Orders of 10 August 1976 which govern liquid and gaseous radioactive effluent from nuclear installations.

## ***Transport of radioactive substances***

*Order modifying the Order of 11 February 1999 establishing the Technical Conditions for Certain Controls carried out by “Well-known Senders” or by Air Carriers in order to Ensure the Safety of Air Freight (1999)*

This Order of 30 December 1999 provides that correctly authenticated radioactive material are included among those deliveries which are exempted from special verification and safety inspection. The conditions for exemption are established by the Minister of Transport and notified to the undertakings concerned.

## **Germany**

### ***General Legislation***

*Reliability Assessment Ordinance for Licence Applications (1999)*

With a view to implementing the licensing regime prescribed pursuant to Sections 12(1) and 12b of the 1959 Atomic Energy Act, as amended, the Federal Government issued an Ordinance on the Assessment of Reliability Regarding Theft or Significant Release of Radioactive Substances (Reliability Assessment Ordinance) on 1 July 1999 (*Bundesgesetzblatt* 1999 I, p. 1525).

Personal reliability is one of the prerequisites which are to be met by applicants for a licence under the Atomic Energy Act or its implementing ordinances. The assessment of such reliability therefore has always been part of the atomic licensing procedure. With regard to the reliability criteria required to prevent theft or significant release of radioactive substances, Section 12b of the Atomic Energy Act requires that the licensing and control authorities conduct a special reliability assessment (see *Nuclear Law Bulletin* No. 44). This provision expressly authorises the authorities to request and obtain relevant information from the police and from the state security authorities. It defines at the same time the rights of those undergoing such a reliability assessment and restricts the use of information obtained during this procedure. Section 12b(2) of the Act provided that the details of this procedure would be determined by a special ordinance to be issued by the Federal Government. The 1999 Reliability Assessment Ordinance was adopted for this purpose.

Section 1 of the Ordinance defines its scope of application and terms. According to Section 2, there are three categories of reliability assessments: simple, enlarged and comprehensive. The activities which require assessments in accordance with these three categories are listed in Section 3. Sections 2, 4 and 9 contain details of the applicable procedure, *inter alia* the obligation to conduct reliability assessments, necessary means and measures for such assessments, administrative procedures, results of the assessments, periods of validity of the assessment and finally assessments in special cases.

The Ordinance entered into force on 1 August 1999. Sections 5(1)(6) and 7(3)(3) will expire on 29 December 2006.

## ***Organisation and Structure***

### *Re-organisation of Advisory Bodies in the Nuclear Sector (1998)*

By notification of 22 December 1998 (*Bundesanzeiger* 1999 No. 5), the Federal Minister for the Environment, Nature Conservation and Nuclear Safety issued new Statutes for its two main advisory bodies, namely the Reactor Safety Commission (*Reaktor Sicherheitskommission – RSK*) (see *Nuclear Law Bulletin* Nos. 9 and 27) and the Radiation Protection Commission (*Strahlenschutz-kommission – SSK*).

The new Statutes do not change the task of the Commissions, which advise the Federal Ministry in matters of safety of nuclear installations and related issues as well as in the fields of radioactive waste management and protection against the hazards of ionising and non-ionising radiation. They do, however, change the composition of the Commissions. The RSK now has some 12 members who aim to represent the entire spectrum of the current state of science and technology, with a view to ensuring well-balanced expertise. The SSK consists of 14 members who also shall represent the entire spectrum of scientific views.

The new Statutes entered into force on 22 December 1998 and replace the 1990 Statutes of both Commissions.

## ***Radiation Protection***

### *Recommendations on Protection against Catastrophes in the Surroundings of Nuclear Installations (1999)*

The Conference of Ministers for the Interior of the *Bundesländer* (on 11 June 1999) and the *Länderausschuss für Atomkernenergie* (Nuclear Energy Committee of the *Bundesländer*) (on 6 April 1999) issued Framework Recommendations on Protection against Catastrophes in the Surroundings of Nuclear Installations. These Recommendations, which replace the Framework Recommendations of 6 October-1 December 1988 (*Gemeinsames Ministerialblatt* 1989, p. 71), were approved by the Radiation Protection Commission (*Strahlenschutzkommission – SSK*) on 17/18 December 1998, and were published in *Gemeinsames Ministerialblatt* 1999, p. 538.

The Recommendations cover, *inter alia*, co-operation of authorities and the operators of nuclear installations, principles for the establishment of emergency preparedness plans in the surroundings of nuclear installations, suggestions concerning the implementation of measures, special catastrophe measures and additional preparatory measures. Annexes contain definitions of radiation levels and other relevant matters.

## ***Transport of Radioactive Material***

### *Ordinance on Exceptions from the Provisions of the RID (1999)*

The Federal Minister of Transport issued a second Ordinance of 15 December 1999 on exceptions from the provisions of the International Regulations concerning the Carriage of Dangerous

Goods by Rail (RID) – Attachment I to Annex B of the COTIF Agreement (*Bundesgesetzblatt* 1999 II, p. 1085) (see *Nuclear Law Bulletin* No. 63). This Ordinance adapts certain parts of the RID Regulations to Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail (EC OJ 1996 No. L 235). The Ordinance, and consequently the amended RID Regulations, entered into force on 30 December 1999.

#### *Air Transport Act (1999)*

A new consolidated version of the Air Transport Act 1968 (see *Nuclear Law Bulletin* Nos. 3 and 23), as last amended on 1 March 1999, was published in *Bundesgesetzblatt* 1999 I, p. 550.

Pursuant to Section 27 of this Act, the transport by air of material and substances which are defined by ordinance as dangerous goods, including in particular nuclear fuels and other radioactive substances, is subject to licensing. The licence may be granted as a general licence or in the form of an individual licence. Special regulations governing the transport of nuclear fuels and other radioactive substances are not affected by this provision. The transport of nuclear fuel on one's person or in hand luggage is prohibited.

The new version of the Act entered into force on 1 March 1999.

#### *Amendments to the Dangerous Goods Ordinances (1999)*

The Dangerous Goods Exception Ordinance of 23 June 1993, as last amended by Ordinance of 22 June 1997 (see *Nuclear Law Bulletin* No. 60), was amended by an Ordinance of 23 June 1999 to amend dangerous goods provisions and other provisions (*Bundesgesetzblatt* 1999 I, p. 1435). This Ordinance also amends the Ordinance on the Carriage of Dangerous Goods by Sea of 4 March 1998 (*Bundesgesetzblatt* 1998 I, p. 419) and the Ordinance on the Carriage of Dangerous Goods by Road of 22 December 1998 (see *Nuclear Law Bulletin* No. 63); the new consolidated version of this Ordinance has been corrected by a corrigendum published in *Bundesgesetzblatt* 1999 I, p. 649. These amendments entered into force on 1 January 1999.

#### ***Regulations on Nuclear Trade (including Non-Proliferation)***

#### *Amendments to the Foreign Trade Ordinance (1999, 2000)*

The Foreign Trade Ordinance of 22 November 1993, as last amended by the 45<sup>th</sup> Ordinance of 1998 (see *Nuclear Law Bulletin* No. 63) was further amended by a series of Ordinances on foreign trade (*Bundesanzeiger* 1999 Nos. 88, 101, 142, 244; 2000 No. 15). The 46<sup>th</sup>, 47<sup>th</sup>, 48<sup>th</sup>, 49<sup>th</sup> and 50<sup>th</sup> Ordinances deal with the repeal or amendment of embargoes vis-à-vis certain countries in respect of particular goods.

The 95<sup>th</sup> and 96<sup>th</sup> Ordinances to amend the Export List – Annex AL to the Foreign Trade Ordinance – of 2 December 1998 and 10 June 1999 (*Bundesanzeiger* 1998 No. 231; 1999 No. 125) adapted the Export List to amendments of the Joint List of the European Union for goods with dual use. The amendments ensue from the decisions of the international export control regime *i.e.* the Wassenaar Arrangement, Nuclear Suppliers Group and Australian Group.

The Import List was amended by the 139<sup>th</sup> and 140<sup>th</sup> Ordinances to amend the Import List – Annex to the Foreign Trade Act – of 22 July 1999 and of 15 December 1999 (*Bundesanzeiger* 1999 Nos. 150, 248). The changes to the list do not have any major relevance for the import of nuclear material, equipment etc.

*Act implementing the Verification Agreement as Revised by the 1998 Protocol (2000)*

In conjunction with its ratification of the Protocol of 22 September 1998 Additional to the Agreement of 5 April 1973 between Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, EURATOM and the IAEA in implementation of Article III(1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (*Bundesgesetzblatt* 2000 II, p. 70), the Parliament adopted, on 29 January 2000, an Act to implement the Verification Agreement as revised (*Bundesgesetzblatt* 2000 I, p. 74).

This Protocol to the said 1973 Verification Agreement, which implements IAEA safeguards, aims in particular to avoid hampering the economic and technological development in the European Community or international co-operation in the field of peaceful nuclear activities, and to strengthen and improve the efficiency of IAEA guarantees. The provisions of the Verification Agreement shall apply to the Protocol to the extent that they are relevant to and compatible with the provisions of this Protocol. In the case of conflict between the provisions of the Safeguards Agreement and those of the Protocol, the Protocol shall apply. The 1973 Verification Agreement and the Protocol form the legal basis for safeguards under the NPT, which are implemented by EURATOM and monitored by the IAEA.

The Act to implement the Verification Agreement, as amended, describes the objectives and the limits of safeguards measures (Section 2); their sole purpose is to verify that nuclear material is not used for the manufacture of nuclear weapons or other explosive devices. The Act provides details on the rights and duties of persons obliged to accept safeguards measures, and of IAEA inspectors.

Persons who produce, store, process, use or transport source material or special nuclear material, called “obliged persons” must accept and support IAEA safeguards measures, pursuant to the Verification Agreement [Section 6(1)].

“Additionally obliged persons” are required to support control of activities in accordance with Articles 2, 5, 8 and 9 of the Additional Protocol to the Verification Agreement (Section 14). Such persons are obliged to provide relevant information (Sections 15 and 16) and must allow access to sites (Sections 17 to 19).

With regard to the rights and duties of inspectors, the Act deals only with IAEA inspectors, and not with those from EURATOM, in light of their different legal positions. EURATOM is a supranational international organisation and, consequently, EURATOM inspectors’ powers are based on European law; whereas IAEA is a traditional international organisation and the obligations established under the NPT require implementation into domestic law. Regarding EURATOM inspectors, the Regulation (EURATOM) No. 3227/76 of 19 October 1976, as last amended by Regulation (EURATOM) No. 2130/93 of 27 July 1993 (EC OJ 1976 No. L 363, 1993 No. L 191) establishes the necessary legal framework for their activities.

IAEA safeguards measures shall be carried out in parallel with its European Community counterparts, unless the Community informs obliged persons that there will be no parallel safeguards inspections [Section 6(2)].

The Act will enter into force on the date of entry into force of the Additional Protocol in Germany. On that same date, the Implementing Act of 7 January 1980 (*Bundesgesetzblatt* 1980 1, p. 17 will expire).

## **Japan**

### ***General legislation***

#### *Amendment to the Regulation Law (1999)*

Law No. 166 for the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (hereinafter referred to as “the Regulation Law”: see *Nuclear Law Bulletin* Nos. 22, 24, 25, 38, 43, 56 and 64) was amended by Law No. 157 of 13 December 1999. This amendment was adopted in the wake of the criticality accident which took place at Tokai-mura on 30 September 1999, in order to strengthen the nuclear safety requirements in force at nuclear facilities. It will enter into force on 1 July 2000.

The amendment reinforces the safety regulations governing the management and operational procedures of nuclear processing plants and nuclear energy facilities. The main changes provide for periodic inspection of processing facilities, and compulsory notification of their dismantling, and regular checks on the management and operational procedures of nuclear energy facilities to ensure compliance with safety regulations. They provide for the appointment of nuclear energy safety inspectors under the authority of the Science and Technology Agency and the Ministry of International Trade and Industry for this purpose. Other provisions establish the duty of nuclear operators to provide safety education to their employees and enable employees to report violations of requirements without being subject to discriminatory treatment.

### ***Organisation and Structure***

#### *Transfer of the Nuclear Safety Commission to the Prime Minister’s Office (1999)*

The Nuclear Safety Commission, an advisory body to the Prime Minister which is responsible for policy and regulations concerning nuclear energy safety, was transferred from the Science and Technology Agency to the newly established Office of Nuclear Safety within the Prime Minister’s Office on 1 April 2000. The transfer was originally planned to take place in January 2001, at the same time as the reorganisation of the whole government, but in the wake of the criticality accident at Tokai-mura in September 1999, it was deemed urgent to strengthen the Commission’s powers and its independent status. The number of members of staff was also increased from 20 to 92.

## ***Radiation Protection***

### *Special Law on Emergency Preparedness for Nuclear Disaster (1999)*

In order to strengthen the applicable legislation following the Tokai-mura accident, Special Law No. 156 on Emergency Preparedness for Nuclear Disaster (hereinafter referred to as “the Special Law”) was adopted on 17 December 1999. This legislation modifies and complements the countermeasures against natural disasters which are established in the Basic Law for Countermeasures against Disaster (Law No. 223 of 15 November 1961). The main provisions of the Special Law are as follows:

- *Nuclear operators’ obligation to prevent the consequences of nuclear disaster:* operators are responsible for preparing an Emergency Plan in consultation with mayors and municipal authorities, both in their own area and neighbouring areas. Nuclear operators are furthermore obliged to install and maintain radiation-measuring equipment, to provide special clothes for radiation protection and communication equipment.
- *Establishment of a Nuclear Disaster Consequences Prevention Organisation:* operators are to establish this body, which will be responsible for taking the necessary measures to prevent or mitigate nuclear damage in the event of an emergency situation. A Nuclear Disaster Prevention Manager, who is responsible for supervising the activities of this Organisation, is also to be nominated by each operator.
- *Designation of an “Off-site Centre”* in each Prefecture where nuclear installations are located.
- *Performance of drills for the prevention of nuclear disaster consequences:* the government, local authorities and operators are obliged to perform drills for the prevention of the consequences of a nuclear disaster, including the simulation of nuclear emergency situations.
- *Declaration of a Nuclear Emergency Situation and establishment of the Government Countermeasures Headquarters:* the Prime Minister is responsible for issuing a Declaration of a Nuclear Emergency Situation, notifying the nuclear emergency situation to the public and giving evacuation instructions to the mayors of relevant municipalities. He furthermore establishes a Government Countermeasures Headquarters within his Cabinet. The Local Countermeasures Headquarters is to be established in the Off-site Centre.
- *Measures to mitigate the effects of a nuclear disaster:* the government, local authorities, operators and designated public organisations shall take measures to mitigate the effects of a nuclear disaster including medical examinations for residents and investigations into radioactivity levels, and public information in relation to rumours of contamination of local produce.
- *Appointment of Experts for Nuclear Damage Prevention:* in order to instruct nuclear operators on disaster prevention measures and to collect information in the event of emergency, the Science and Technology Agency and the Ministry of International Trade and Industry are to appoint Experts for Nuclear Disaster Prevention at the nuclear installations.

### ***Third Party Liability***

*Ordinance implementing the Law on Compensation for Nuclear Damage (1999)*

*Ordinance implementing the Law on the Indemnity Agreement for Compensation of Nuclear Damage (1999)*

Following the latest amendment to the Law on Compensation for Nuclear Damage (see *Nuclear Law Bulletin* No. 64) and the Tokai-mura accident, Cabinet Orders Nos. 44 and 45 establishing the implementing ordinances for the Compensation Law and the Law on the Indemnity Agreement for Compensation of Nuclear Damage respectively, were both amended by Cabinet Order No. 406 of 1999. These amendments entered into force on 1 January 2000.

Both Ordinances were amended to include nuclear damage resulting from transport, storage or disposal incidental to the storage of nuclear spent fuel within their scope.

The Ordinance implementing the Compensation Law establishes maximum liability amounts in respect of the activities set out in the following table, for which nuclear operators are obliged to take out insurance or other financial security:

Category	New amount Bill. JPY	Old amount Bill. JPY
1. reactor operation (max. thermal power 10 000 kW+)	60	30
2. reactor operation (max. thermal power more than 100 kW but less than 10 000 kW)	12	6
3. reactor operation (max. thermal power less than 100 kW)	2	1
4. fabrication or use of nuclear materials except those under (5)	2	1
5. fabrication or use of 5%+ enriched uranium and plutonium	12	6
6. reprocessing of spent fuel	60	30
7. storage of spent fuel	12	
8. underground disposal of waste except waste under (9)	2	1
9. underground disposal of high-level radioactive waste	12	6
10. transport of nuclear materials incidental to the operation of a nuclear reactor, fabrication, reprocessing or use of nuclear materials, storage of spent fuel and underground waste disposal, except as listed under other categories	2	1
11. transport of (a) 5%+ enriched uranium and plutonium incidental to the activities listed under (10); (b) spent fuel and (c) high-level radioactive waste	12	6



12. storage of nuclear materials incidental to the activities listed under (10) except those materials listed under (13)	2	
13. storage of (a) 5%+ enriched uranium and plutonium incidental to the activities listed under (10); (b) spent fuel and (c) high-level radioactive waste	12	
14. disposal of nuclear materials resulting from the activities listed under (10)	2	1

## Republic of Korea

### *General legislation*

#### *Amendment to the Atomic Energy Act (1999)*

The 15<sup>th</sup> Amendment (No. 483 of 11 March 1958: see *Nuclear Law Bulletin* Nos. 6, 7, 55 and 59) was promulgated on 8 February 1999 as Act No. 5820.

This Amendment demonstrates the Korean Government's policy in respect of the simplification of licensing procedures for construction and operation of nuclear facilities.

The principal changes introduced by this Amendment are as follows:

- The Prime Minister assumes the position of Chairman of the Atomic Energy Commission instead of the Minister of Science and Technology. Furthermore, the Chairman of the Planning and Budget Committee becomes a new member of the Commission [amendment to Article 4(2)].
- The technical standards governing location, structure and facilities of nuclear reactors, which, until now, were established in Presidential Decrees, are now to be regulated by Ordinances of the Ministry of Science and Technology. The standards for quality assurance in relation to the construction and operation of reactors and dosimetry of external radioactivity, which used to be regulated by Notices of the Ministry of Science and Technology are now to be regulated by Ordinances of that same Ministry [amendment to Articles 12, 22, 44, 58, 66, 77, 87 and 90(5)].
- The requirement to submit design data for nuclear reactors was abolished as such data can be verified in the course of the safety review for the construction permit and the operating licence [deletion of Article 14].
- The provisions governing suspension or discontinuance of a reactor project, and the requirement to obtain permission for the transfer and merger of projects were deleted as they were deemed to be duplicated by the terms of the Electricity Business Act [deletion of Article 19; amendment of Articles 20, 32, 36, 56, 63, 75, 83 and 90].

- Persons intending to operate a marine vessel containing a nuclear reactor were previously required to obtain a permit from the Minister of Science and Technology. However, given that such vessels have never been used in Korean territorial waters, apart from warships, and that there is no likelihood of their being used in the near future, this permit regime was abolished [deletion of Article 33(1)].
- The licensing regimes for manufacture of major parts and accessories for reactors and for performance tests were abolished in light of the verification procedures now in force in Korea [deletion of Articles 37 to 42].
- The following provisions were abolished: the approval of facility design/construction method for nuclear fuel cycle facilities; the approval of design/processing method for nuclear fuel; the submission of an operating plan; and the approval of safety control regulations. Instead, in the case of applications for a licence, related documents are to be submitted. Regulations in relation to the nuclear fuel cycle industry which provided that the Minister of Science and Technology should receive prior notice of the appointment of competent personnel to handle nuclear fuel material were also abolished [deletion of Article 44(2) and (3) and Articles 48 to 52].
- New regulations have been established, governing those establishments responsible for the safe management of radioisotopes and inspections of containers containing radioisotopes, and the surveillance of environmental contamination by radioactivity [new Articles 65, 66, 67, 72 and 73].
- A national task force for environmental radioactivity surveillance and evaluation, and a facility measuring radioactivity are to be established [new Articles 104(7)].

The registration regime for services provided to businesses was abolished in the following instances: the removal of radioactive contamination; the removal, processing and shipment of radiation waste; safety control of personnel entering radioactive areas; and the repair of radiation safety control equipment [deletion of Article 75(2) to (5)].

## **Republic of Moldova**

### ***Regime of Radioactive Materials***

#### *Law on Licensing of Certain Activities (1999)*

On 26 March 1999, the Parliament adopted Law No. 332-XIV on Licensing of Certain Activities, which repeals legislative instruments adopted by the former USSR.

The objective of this legislation is to establish a licensing regime and procedures. In this respect, it sets out in Annex 2 the list of activities which are subject to licensing. In particular, it states that the use, import, storage and transport of ionising radiation sources and radioactive materials require such a licence.

The Law also describes the characteristics of a licence, such as its form and content (Section 3), its scope (Section 4) and validity (Section 5), and determines the authorities competent to issue

licences (Section 9). The Ministry of the Environment is the licensing body for use, import and storage of ionising radiation sources and radioactive materials, following prior approval from the Ministry of Health. The Department of Civil Protection and Emergency Situations is responsible for issuing licences for the transport of nuclear materials. It sets out a standard licence application in Annex 1.

## **Myanmar**

### ***General Legislation***

#### *Atomic Energy Law (1998)*

The Atomic Energy Law of Myanmar (Burma) (No. 8/98) was adopted on 8 June 1998. The objectives of this legislation are stated to be the development of the safe uses of atomic energy, the protection of man and the environment from the effects of ionising radiation and the promotion of research and technology in the atomic energy field (Section 3). This Law furthermore establishes the Atomic Energy Council, comprised of representatives from relevant ministries, governmental organisations involved in the field of atomic energy and scientists, and chaired by the Minister of Science and Technology. The Council carries out the following tasks:

- definition of short- and long-term policy in relation to the use of atomic energy;
- provision of guidance and control in respect of the use, production, storage, distribution, sale, import, export or disposal of nuclear materials, radioactive material or irradiation apparatus, and in relation to licensing and registration procedures;
- establishment of the necessary controls in relation to nuclear or radioactive material or irradiation apparatus;
- promotion of research and development in the field of atomic energy, including co-operation with other competent national and international bodies;
- provision of advice to the government in respect of international conventions and other instruments relating to atomic energy, and in relation to the dissemination of information on the effects of atomic energy to the public; and
- co-ordination with the competent ministries on the teaching of subjects related to atomic energy.

Sections 7 to 10 of the Law define in detail the responsibilities of the Ministry of Science and Technology in relation to registration, licensing and inspection.

The Department of Atomic Energy carries out research relating to the applications of atomic energy and radiation protection, in collaboration with other national and international bodies. It is also responsible for issuing registration certificates (Chapter VII of this Law) and licences (Chapter VIII) for possession, use, production, storage, distribution or sale of nuclear or radioactive materials and irradiation apparatus. The Department furthermore grants prior permission (Chapter IX) for the import or export of such items.

The final provisions of this legislation establish penalties for breach of its provisions, and provide that appeals against decisions made pursuant to this Law shall be heard by the Ministry of Science and Technology, whose final decision shall be conclusive.

## **Romania**

### ***Organisation and Structure***

#### *Regulation on the Accreditation of Bodies in the Nuclear Field (1999)*

On 10 December 1999, the President of the National Commission for the Control of Nuclear Activities (CNCAN) issued Order No. 219 governing the Accreditation of Bodies in the Nuclear Field (*Monitorul Oficial*, No. 87/28 February 2000). This text was adopted pursuant to Government Ordinance No. 38 of 30 January 1998 on accreditation, which states in particular that the CNCAN is responsible for assessing and accrediting certification bodies and laboratories in the nuclear field.

Order No. 219 provides that the following types of bodies will be accredited (“notified bodies” under the Romanian legislation): testing laboratories, calibration laboratories, products certification bodies, quality assurance certification bodies and personnel certification bodies. These bodies provide the CNCAN with reports on specific issues related to the licensing of nuclear activities to help it in its task of determining whether or not a licence should be granted. It sets out the criteria which should be fulfilled by these bodies in order to be accredited.

The Order entered into force on 29 March 2000.

## **Slovenia**

### ***Transport of Radioactive Materials***

#### *Act on Transport of Dangerous Goods (1999)*

An Act on Transport of Dangerous Goods was adopted by the Parliament in September 1999 and it entered into force on 1 January 2000. This Act replaces the 1990 Act on the Transport of Dangerous Substances (Official Gazette No. 27/90). It applies to the transport of nuclear and radioactive materials and confirms the direct application of several international agreements, in particular the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and the International Regulations concerning the Carriage of Dangerous Goods by Rail (RID).

## South Africa

### *General Legislation*

#### *Nuclear Energy Act (1999)*

#### *National Nuclear Regulator Act (1999)*

A new Nuclear Energy Act (No. 46) and a National Nuclear Regulator Act (No. 47), both of which were adopted on 20 December 1999 and entered into force on 24 February 2000, repeal and replace the 1993 Nuclear Energy Act (No. 131) (see *Nuclear Law Bulletin* No. 53). The purpose of the Nuclear Energy Act is to create the South African Nuclear Energy Corporation Limited (NECSA), to implement the Safeguards Agreement, to regulate the acquisition, possession, importation and exportation of nuclear fuel, nuclear material and related equipment and to prescribe measures regarding the disposal of radioactive waste and the storage of irradiated nuclear fuel. The National Nuclear Regulator Act aims to establish a National Nuclear Regulator and to provide for safety standards and regulatory practices for protection of persons, property and the environment against nuclear damage. Thus, this new legislation aims to draw a clearer dividing line between nuclear regulation and the development and use of nuclear material and equipment, and consequently to place each organisation responsible for these activities under the scope of separate laws.

These two Laws establish the new organisations competent in the nuclear field: the NECSA and the National Nuclear Regulator.

- The Nuclear Energy Act defines the **South African Nuclear Energy Corporation Limited** as a public company, wholly owned by the state, and subject to the Companies Act. The NECSA, which replaces the Atomic Energy Corporation (AEC), is mainly responsible for promoting research and development in the field of nuclear energy and radiation sciences and technology, processing sources material, special nuclear material and restricted material and reprocessing and enriching source material and nuclear material. The Act sets out other ancillary powers and functions of the NECSA, such as the right to possess, manufacture, import, export and transport certain specified nuclear material. The NECSA is comprised of a board, committees and a chief executive officer.
- Act No. 47 provides that the **National Nuclear Regulator** replaces the Council for Nuclear Safety (CNS) and takes over all its assets and responsibilities. The Regulator is comprised of a board of directors, committees and a chief executive officer. The objectives of the Regulator are, *inter alia*, to ensure the protection of persons, property and the environment against nuclear damage through the enactment of safety standards and regulatory practices; to exercise regulatory safety control over the siting, design, construction, operation, decontamination, decommissioning and closure of nuclear installations through the granting of nuclear authorisations; and to ensure that provisions for nuclear emergency planning are in place. For this reason, the Regulator is primarily responsible for issuing or amending nuclear authorisations.

As regards the licensing of nuclear activities, the Nuclear Energy Act deals with nuclear material and waste and the National Nuclear Regulator Act governs nuclear installations and vessels:

- **Nuclear material and waste.** The Nuclear Energy Act devotes its Chapter III to non-proliferation and appoints the Minister of Minerals and Energy as the national authority responsible for the implementation and application of the Safeguards Agreement. It is in charge of detecting and identifying nuclear material intended to be used for peaceful purposes and deterring the diversion of such material to the manufacture of nuclear weapons or other nuclear explosive devices. The Act then lists the Minister's duties and powers to fulfil his responsibilities. It also establishes obligations for any person possessing, using, handling or processing nuclear material, *i.e.* undertaking the registration and inventory, ensuring the physical protection, etc., of this material. The Act also requires authorisation from the Minister, after consultation of the South African Council for the Non-Proliferation of Weapons of Mass Destruction, for acquisition and possession of restricted material and nuclear-related equipment and material. The Act furthermore provides that an inspector may enter premises and perform any inspection or investigation necessary for monitoring compliance with Act with regard to restricted matter and activities. The Minister may acquire source material and special nuclear material whenever the national interest so requires. Authority over the management and disposal of radioactive waste and storage of irradiated fuel is also vested in the Minister, who issues permission for carrying out these activities. Lastly, the Minister provides certain restricted matter for research, development and training purposes (Chapter IV).
- **Nuclear installations and vessels.** The National Nuclear Regulator Act states that the National Nuclear Regulator is responsible for issuing and revoking licences for the siting, construction, operation, decontamination or decommissioning of nuclear installations and vessels. The application procedure is then described (Chapter III). The Regulator may attach conditions to the licence. A certificate of exemption from licensing requirements may be issued in certain circumstances. The Act also lays down the responsibilities of licensees.

The National Nuclear Regulator Act also deals with other matters, in particular with **third party liability and financial security** (Chapter IV). Pursuant to the Act, the holder of a nuclear installation licence is strictly and absolutely liable for nuclear damage caused by or resulting from the relevant nuclear installation. The licensee's liability is furthermore limited to the amount which shall be set out by the Minister. The Act provides that the Minister of Minerals and Energy shall determine the level of financial security to be provided by holders of nuclear installation licences, taking into account the different categories of installations to be set out by the Minister. The licensee is exempt from its liability in two cases: if the damage is attributable to the presence of a person or the property of a person at or in the nuclear installation or on the site in respect of which the licence has been granted, without the permission of the licensee; or if a person intentionally caused, or intentionally contributed to, such damage. State funding is provided for where the total amount of claims for compensation against a licensee exceeds the amount for which the licensee has given security. An action may be instituted in a period of 30 years from the date of the occurrence which gave rise to the right to claim that compensation.

Chapter V of the Law prescribes safety and emergency measures. In particular, it sets out the duties of licensees and of the Regulator regarding nuclear accidents and incidents and emergency planning. Records of nuclear installations and of nuclear accidents and incidents are kept by the Regulator.

## Switzerland

### *Radiation Protection*

#### *Amendment to the Radiological Protection Ordinance (1999)*

An amendment to the Radiological Protection Ordinance of 22 June 1994 (see *Nuclear Law Bulletin* No. 55 and the Supplement to *Nuclear Law Bulletin* No. 57) was approved by the Federal Council and entered into force on 1 January 2000.

The amendment concerns certain technical details, namely the revision of Annexes 3 and 4 to conform to the new radiation protection dose factors adopted by the International Radiological Protection Commission. The Ordinance is therefore in line with current advances in science and technology. The modification also covers the supervisory powers of the Paul-Scherrer Institute (IPS). There are, in fact, several nuclear installations on the IPS site, along with other installations subject to licensing, such as accelerators and laboratories. Until now, the whole facility was subject to licensing by the Federal Energy Office and placed under the supervision of the Principal Division for the Safety of Nuclear Installations. The supervision of its medical installations constitutes an exception as this is one of the tasks of the Federal Office of Public Health. IPS's non-nuclear installations which are subject to the radiation protection legislation, such as the spallation neutrons source, the synchrotron light source, under construction, and the installations of proton therapy for cancer treatment, will be supervised as of 1 July 2000 by the Federal Office of Public Health.

#### *Ordinance on Individual Dosimetry (1999)*

On 7 October 1999, the Federal Department of the Interior and the Federal Department of the Environment, Transport, Energy and Communications adopted, pursuant to Section 52 of the Radiological Protection Ordinance of 22 June 1994 (see *Nuclear Law Bulletin* No. 55 and the Supplement to *Nuclear Law Bulletin* No. 57), an Ordinance on Individual Dosimetry. This Ordinance entered into force on 1 January 2000. It is comprised of 4 chapters, divided into 42 sections, plus 10 annexes.

The objective of this Ordinance is to lay down technical provisions governing individual dosimetry, and to establish requirements in respect of dosimetric systems.

The Federal Office of Public Health and the Principal Division for the Safety of Nuclear Installations which, pursuant to Section 47 of the Radiological Protection Ordinance, are the competent authorities for certifying individual dosimetry services, also exercise supervisory powers over such services.

The Ordinance sets out the obligations of individual dosimetry services in the event of termination of activities (obligation to provide the certifying authority, its principals and the supervisory authorities with six months notice of such termination, obligation to provide archival data to the new individual dosimetry services etc.), in the case of rescission of their contract, and the dosimetry of persons under obligation in the event of increased radioactivity.

The Ordinance also specifies the methods of dosimetry supervision (wear of the dosimeter, period of measurement etc.), the technical requirements which dosimetry systems must fulfil, technical

definitions and conditions, minimum requirements for measurement services and conditions governing their certification and standard models for calculations.

### ***Radioactive Waste Management***

#### *Ordinance on the Fund for the Management of Radioactive Waste from Nuclear Power Plants (2000)*

The Swiss Government approved, by Decision of 6 March 2000, the above Ordinance. This Fund aims to cover management costs for radioactive waste produced after the decommissioning of a nuclear power plant. It will form, with the Fund for the Decommissioning of Nuclear Installations (see *Nuclear Law Bulletin* No. 33), the second body whose objective is to guarantee the financing of activities resulting from the operation and the dismantling of a nuclear installation.

“Management cost” is understood to mean all expenses necessary for the disposal of radioactive waste and spent fuel assemblies resulting from the operation of the plant. These expenses also include costs for research related to the disposal of radioactive waste, preparatory actions, the design, construction and operation of management equipment, and to the closure of a final repository. The management costs are calculated every five years for each nuclear plant, based on a period of activity of 40 years.

The operators of nuclear power plants are obliged to pay an annual contribution which will be determined in order to cover the theoretical management costs, as well as the administrative and secretarial expenses of the Fund. In the event that contributions are not sufficient, the operator is obliged to pay the balance necessary, even after operations at the plant have ceased (including in the case of early closure of the installation).

The assets of the Fund are invested in such a way that their safety is ensured, while providing reasonable conditions of interest and sufficient liquid assets for each plant.

The Fund is comprised of two bodies, an Administrative Commission and a Secretariat. It is supervised by the Federal Department of the Environment, Transport, Energy and Communications, which is entrusted with the preparation of a regulation to implement this Ordinance. The Ordinance partly entered into force on 1 April 2000, while its implementing regulation and the remainder of the Ordinance will enter into force on 1 January 2001.



# Ukraine

## *Organisation and Structure*

### *Restructuring of the Nuclear Sector (1999)*

On 15 December 1999, the President of Ukraine issued a Decree introducing a number of changes into the structure of the government. This Decree reduces the number of Ukraine's ministries and other executive bodies. The Ministry of the Environment and Natural Resources replaces the following bodies:

- Ministry of Environmental Protection and Nuclear Safety;
- Committee on Geology and Land Utilisation;
- Hydrometeorology Committee;
- State Nuclear Regulatory Administration;
- Main Department for Geodesy, Mapping and Cadastre; and
- State Commission on Testing and Registration of Pesticides and Fertilizers.

The State Nuclear Regulatory Administration (SNRA) becomes a part of the Ministry of the Environment and Natural Resources as the Department for Nuclear Regulation. The main structure and functions of the Department will be similar to those of the former SNRA. It will be headed by the Deputy Minister for Industry and Agriculture and two deputy heads. One of the deputy heads will supervise the Office for Nuclear Installation Safety, the Office for the Safety of Radioactive Waste Management and the Department for the Safety of Radioactive Technologies and Devices, while the other will manage the Office of Normative and Legal Regulation of Nuclear and Radiation Safety and the Office of Physical Protection and Nuclear Weapons Non-proliferation and Safeguards.

The Ministry of Fuel and Energy, who is responsible for the regulation of nuclear energy and radiation safety, replaces the following bodies:

- Ministry for Coal;
- Ministry of Energy;
- State Department for Electrical Energy;
- State Department for Oil/Gas and the Oil-refining Industry;
- State Department for Nuclear Energy (former *Goskatom*).

The Department for Nuclear Energy will be established within the new Ministry of Fuel and Energy. The status and structure of this Department has not yet been defined.

## ***Regime of Nuclear Installations***

### *Law on the Licensing of Activities in the Field of Nuclear Energy (2000)*

The President of Ukraine signed the above Law on 11 January 2000, and it entered into force on the same date. It defines the legal and organisational framework governing permitted activities in the field of nuclear energy and provides for certain exemptions from the general provisions established by the Law on Business Undertakings.

The Law aims to ensure that operators of nuclear facilities, users of radiation sources and managers of radioactive waste management installations comply with internationally-accepted safety levels. It lists those activities in the nuclear energy field which are subject to licensing: design, construction, commissioning, operation and decommissioning of nuclear facilities or radioactive waste storage or disposal facilities; processing of uranium ore; transport of radioactive material; processing, storage and disposal of radioactive waste; manufacture, storage, use and maintenance of radiation sources; activities related to the physical protection of nuclear material; and training of personnel operating nuclear facilities. The Law also provides for exemptions from licensing requirements for the use of certain radiation sources. Furthermore, it describes the licensing procedure and describes the content of a licence, including any conditions which may be attached thereto.

Supervision to ensure compliance with licence conditions is carried out through inspections and analysis of nuclear and radiation safety. The licensing authority may suspend or revoke a licence.

The Law also requires certification of *inter alia* radiation sources, packages for radioactive waste storage or disposal and packages for radioactive material transportation. Radioactive sources are also subject to state registration.

Lastly, this Law amends Section 33 of the 1995 Law on the Use of Nuclear Energy and Radiation Safety on the definition of “operating organisation” (see the Supplement to *Nuclear Law Bulletin* No. 56).

# INTERNATIONAL REGULATORY ACTIVITIES

## European Union

### *Amendments to the 1990 Regulation on imports of agricultural products originating in third countries following the Chernobyl accident (2000)*

On 20 March 2000, the Council of the European Union adopted Regulation (EC) No. 616/2000 amending Regulation (EEC) No. 737/90 on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power station (EC OJ No. L 75, 24 March 2000, p. 1) (see *Nuclear Law Bulletin* Nos. 45, 49, 55 and 64).

This Regulation makes three amendments to Regulation (EEC) No. 737/90. First, it changes the manner in which maximum permitted levels are calculated for all products other than milk, so that these levels in terms of caesium – 134 and – 137 are calculated for all dried products on the basis of the reconstituted products as ready for consumption.

Secondly, the new Regulation extends the validity of Regulation (EEC) No. 737/90 by ten years; it will thus expire on 31 March 2010.

The third amendment is of a more procedural nature. Pursuant to the new Regulation, the Commission is assisted by a “regulatory” committee rather than an “advisory” committee (see Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred to the Commission, EC OJ No. L 184, 17 July 1999, p. 23).



# AGREEMENTS

## BILATERAL AGREEMENTS

### **Belgium – France**

#### *Co-operation Agreement on Chooz Nuclear Power Plant and Exchange of Information in the Event of an Incident or an Accident (1998)*

This Agreement was signed by the Government of the French Republic and the Government of the Kingdom of Belgium on 8 September 1998 and it entered into force on the same date. It aims to set out requirements concerning the monitoring of rate of flow of the Meuse River and radioecology in the surroundings of the Chooz NPP, as well as co-operation on exchange of information. Both Parties furthermore agree to establish programmes to monitor the environment surrounding the Chooz NPP and to exchange results. An annual information exchange on radiological monitoring of the environment is also required. The Agreement provides for the establishment of a specific system of mutual information in the event of an emergency, as well as joint nuclear emergency exercises.

The Agreement will remain in force for the duration of operation of the Chooz NPP.

### **Bulgaria – Slovak Republic**

#### *Agreement for Co-operation on the State Control of Safety in the Use of Atomic Energy for Peaceful Purposes (1999)*

The above Agreement was signed by the Committee on the Use of Atomic Energy for Peaceful Purposes of the Republic of Bulgaria and the Ministry of Economy of the Slovak Republic on 29 September 1999. It entered into force on the same date.

This Agreement establishes a legal basis for co-operation between the nuclear safety regulatory authorities of both countries. Co-operation extends to the following activities:

- state control and regulation of the safe use of atomic energy for peaceful purposes;
- analysis of safety reports for nuclear facilities in Bulgaria and the Slovak Republic;
- safety analysis during transportation of nuclear materials and radioactive waste;
- practices related to inspections, enforcement measures and sanctions;
- harmonisation of national legislation in the fields of nuclear and radiation safety and emergency planning with EU requirements;

- development, application and periodical review of regulations and standards for nuclear and radiation safety;
- drafting regulations, programmes and guidelines for regulatory activities related to decommissioning of nuclear facilities and for training of nuclear and radiation safety inspectors;
- emergency planning and assistance in the event of a nuclear accident;
- control of physical protection of nuclear materials, of management of radioactive waste and spent nuclear fuel and of the accounting and control system for nuclear materials, including export and import control of special materials and equipment; and
- quality control of nuclear fuel and of equipment important for the safety of nuclear installations.

The Agreement also provides that such co-operation may take the following forms:

- mutual exchange of standards and regulations in the fields of nuclear and radiation safety and radioactive waste and spent nuclear fuel management;
- consultations aiming at the development and application of requirements, standards and guidelines for nuclear and radiation safety;
- exchange of information on accidents and events in nuclear installations and preventive measures;
- exchange of experts and of working experience of the nuclear regulatory bodies; and
- organisation of conferences, symposia and seminars on the safety of nuclear and radiation technologies and strengthening of regulatory and control activities in this field.

## **Croatia – Hungary**

### ***Agreement on the Early Exchange of Information in the Event of a Radiological Emergency (1999)***

This Agreement was signed by Croatia and Hungary on 11 June 1999 and entered into force on 19 February 2000. It governs the notification and provision of information in the event of a radiological emergency upon the territory of one of the two Parties, in particular when a risk of endangering the population of the other Party exists. In this latter case, the Parties shall co-operate in taking measures for the protection of public health and property. The Agreement also provides for the possibility of granting assistance in such a case.

The Agreement also states that the Parties shall provide information on their nuclear programmes once a year, in particular on all facilities, whether existing, under construction or simply planned, their working experience of facilities, off-site emergency plans and legal regulations in the field of nuclear and radiation safety and radiation protection. Technical consultations shall also be held once a year.

The Agreement further requires that each Party carry out a programme to measure ionising radiation and radionuclides in the environment and to provide these results to the other Party once a year.

A system of exchange of data from the early warning system is to be established within two years following the entry into force of this Agreement.

## **Croatia – Slovenia**

### ***Agreement on Early Exchange of Information in the Event of a Radiological Emergency (1999)***

This Agreement between Croatia and Slovenia entered into force on 9 April 1999. It provides that the Contracting Parties must notify and provide information to the other Party in the event of a radiological emergency. The obligations of the Contracting Parties are defined in the same manner as in EU Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency (EC OJ L371). The Agreement also contains provisions concerning arrangements for assistance, in particular measures for the protection of public health and property.

## **France – United Kingdom**

### ***Collaboration Agreement in the Field of Nuclear Waste Management and Dismantling of Nuclear Installations (1999)***

This Agreement was signed on 7 July 1999 between the Atomic Energy Commission (*Commissariat à l'énergie atomique CEA*) of France and the United Kingdom Atomic Energy Authority for collaboration in the field of radioactive waste management and dismantling of nuclear installations.

The Agreement provides that this collaboration may include the following:

- general information exchange on specific scientific or technical topics;
- visits of installations;
- joint studies in the field of research and development.

## **Germany – Hungary**

### ***Agreement on Mutual Assistance in the Event of Catastrophe or Severe Accident (1998)***

On 9 June 1997, the Government of the Federal Republic of Germany and the Government of the Republic of Hungary signed this Agreement on Mutual Assistance, which entered into force on 11 September 1998. The Agreement provides that the Parties assist each other to the greatest extent

possible in the event of catastrophes and severe accidents which may entail considerable damage or risk to man, property or the environment, and which the Party seeking assistance apparently cannot control by its own means. The Agreement establishes the necessary legal framework to ensure and facilitate assistance services. Although nuclear catastrophes and radiation accidents are not expressly mentioned in the Agreement, the preamble would suggest that these accidents shall also be covered, as it expressly refers to the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency and to the Agreement of 26 September 1990 between Germany and Hungary on questions of common interest in connection with nuclear safety and radiation protection.

The Agreement is concluded for an unlimited period of time, but it may be terminated by one of the Parties six months after provision of notice to the other Party.

## **Germany – Romania**

### ***Agreement on Co-operation and Information Exchange in the Field of Nuclear Safety (1998)***

On 10 November 1998, the National Commission for Nuclear Activities Control of Romania (CNCAN) and *Gesellschaft für Anlagen und Reaktorsicherheit (GRS) mbH* (the German Company for Reactor Safety) signed an Agreement on Co-operation and Information Exchange in the Field of Nuclear Safety.

The Agreement provides for the following forms of co-operation: exchange of documents and of personnel, supply of computer codes and other specific co-operation activities.

Costs for the implementation of this Agreement are to be borne by the Party which incurred them. The Agreement also provides for free use and dissemination of information received under this Agreement unless such information has been identified as confidential.

The Agreement entered into force on 18 February 1999 for a period of five years.

## **Indonesia – United Kingdom**

### ***Memorandum of Agreement concerning Co-operation in Research & Development, Production and Marketing of Radioisotopes for Medical or other Use (2000)***

On 10 April 2000, the Indonesian National Nuclear Energy Agency (*Badan Tenaga Nukliar Nasional* – BATAN), an Indonesian state-owned company *PT Batan Teknologi* (PT BT), and a British Virgin Island Corporation, Nucleonic Medical Corporation (NMC), signed the above-mentioned Memorandum of Agreement.

The Memorandum provides for co-operation among BATAN, PT BT and NMC with a view to carrying out research and development programmes and to manufacturing and marketing, in Indonesia and throughout the world, radioisotopes for diagnostic or other therapeutic purposes. The principal products concerned and their fields of use are the following: isotopes used for medical or industrial purposes from reactors and accelerators, brachytherapy innovations, bone pain relief, and cancer and heart disease delivery systems.



According to the Memorandum, BATAN shall allow use of its main reactor and other facilities, shall provide technical advice, assistance and personnel for the operation of the reactor and other facilities.

PT BT shall supply fuel elements to BATAN and assist in the domestic marketing of products.

NMC shall provide research data, technical advice and assistance for the research, development and manufacture of products, carry out quality control and inspection in respect of the manufacture of products, and provide funding. NMC is also responsible for marketing products outside Indonesia.

## **Israel – United States**

### ***Letter of Intent on Co-operation in the Fields of Non-proliferation, Arms Control, and Regional Security (2000)***

This Letter of Intent was signed by the Department of Energy of the United States (DOE) and the Israel Atomic Energy Commission (IAEC) on 22 February 2000.

The main areas of co-operation are the following:

- verification of the Comprehensive Nuclear Test Ban Treaty and promotion of related regional seismic monitoring co-operation;
- assessment of international nuclear safeguards measures; and
- assessment of monitoring technologies for regional security and co-operation.

The co-operation activities involved mainly consist of the implementation of research and development projects and meetings between representatives of both Parties.

The Letter of Intent provides that a meeting of Israeli and US expert is to be held in order to share their respective experiences in integrating former Soviet scientists into non-military work.

The Parties shall meet annually to review progress in the relevant areas and to explore further co-operative technical activities within the fields covered by this instrument.

## **Kazakhstan – United States**

### ***Agreement for the Exchange of Technical Information and Co-operation in Nuclear Safety Matters (1999)***

This Agreement was signed by the US Nuclear Regulatory Commission (NRC) and the Atomic Energy Committee of the Ministry of Energy, Industry and Trade of the Republic of Kazakhstan on 20 December 1999 in order to extend the previous Agreement on the same subject. It sets out in particular requirements concerning assistance, primarily for the Atomic Energy Committee in its

regulatory activities related to the decommissioning of the BN-350 fast breeder reactor in Aktau, Kazakhstan.

### ***Co-operation Arrangement concerning Decommissioning of the BN-350 Reactor (1999)***

This Arrangement was signed by the Ministry of Energy, Industry and Trade of the Republic of Kazakhstan (MEIT) and the US Department of Energy (DOE) on 19 December 1999. It entered into force on the same date. The Arrangement aims to establish a co-operation programme to safely shut down the BN-350 reactor in Aktau, Kazakhstan.

This Programme shall include upgrades of safety and radiation monitoring systems at the facility, which will operate during the transitional period between the time that the reactor is shut down and its final dismantling and decommissioning.

The Arrangement lists the activities for which DOE, in consultation with MEIT, will provide assistance. This includes *inter alia* planning the shutdown of the reactor under stable conditions, upgrading safety systems and development of safety analyses and methods.

DOE support covers technical integration, technology, technical supervision, engineering, safety analysis, and project management. Kazakhstan remains responsible for technical and safety approval, and for implementation of all activities affecting the plant.

The Programme involves other participants than DOE and MEIT, for example the US Argonne National Laboratory and the Kazakhstan Atomic Energy Committee.

The Arrangement will remain in force until all activities covered by this Programme have been completed.

## **Lithuania – Sweden**

### ***Framework Agreements for Co-operation in the Field of Nuclear Safety (2000)***

Following the allocation of funds by Sweden for nuclear safety improvements in Lithuania, Sweden and Lithuania concluded two co-operation framework agreements.

The first was signed on 27 January 2000 by the operator of Ignalina Nuclear Power Plant (INPP), the Ministry of Economy of the Republic of Lithuania and the Swedish Party (Swedish International Project Nuclear Safety – SIP), empowered by the Swedish Government to administer the use of the funds allocated.

This Agreement provides for further assistance by SIP in the process of strengthening nuclear safety in the nuclear energy sector in Lithuania in the following areas: nuclear safety, public information on nuclear issues and support of the co-ordination of international and bilateral nuclear safety projects. The Agreement lists the specific programmes concerned by this support. They include *inter alia* the implementation of quality assurance and safety culture programmes at Ignalina NPP.

The assistance mainly consists of funding activities related to the programmes and providing technical and management expertise to INPP. The Lithuanian Parties agreed to co-finance, if necessary, projects managed by SIP and to carry out, in time, the scheduled safety improvements.

The Agreement was concluded for a period of one year from the date of signature, and will be automatically renewed unless one of the Parties denounces it three months after written notice is addressed to the other Parties.

The second Co-operation Framework Agreement was signed by the State Nuclear Power Safety Inspectorate of the Republic of Lithuania (VATESI) and the Swedish International Project Nuclear Safety (SIP) on 1 March 2000.

This Agreement sets out the framework for assistance, consisting of the provision of qualified expertise and funding, from SIP for VATESI and from technical support organisations for enhancement of the nuclear safety regulatory regime within VATESI's powers. The programmes supported by SIP cover in particular development of regulations on waste management and emergency preparedness; methodology for physical protection inspections; the licensing regime; quality assurance systems; training; and public information.

## **Slovak Republic – Slovenia**

### ***Agreement for the Exchange of Information in the Field of Nuclear Safety (1999)***

On 25 September 1999, the Government of the Slovak Republic and the Government of Slovenia signed an Agreement for the Exchange of Information in the field of Nuclear Safety. This Agreement is concluded for an unlimited period and repeals, upon its entry into force, the Agreement between the former Yugoslavia and the former Czechoslovakia on Co-operation in the field of Peaceful Uses of Nuclear Energy of 15 February 1966, with regard to the Slovak Republic and Slovenia.

The 1999 Agreement provides for the exchange of technical experts and information relating to nuclear and radiation safety, including the preparation and implementation of international and national instruments, licensing and inspection, safety-related research and development activities, plant security, radiation safety during storage, discharge and treatment of radioactive waste, emergency planning and preparedness, training of personnel, etc. It also provides that the information received may be used freely except if it is of a confidential nature.

The Slovenian Nuclear Safety Administration and the Nuclear Regulatory Authority of the Slovak Republic are designated as the authorities responsible for implementing this Agreement.

A meeting shall be held at least once every two years in order to review the information exchanged.

## Sweden – Ukraine

### *Agreement on Co-operation in the Field of Nuclear Safety (1999)*

The Government of Sweden and the Cabinet of Ministers of Ukraine signed an Agreement on Co-operation in the Field of Nuclear Safety on 23 March 1999. This Agreement aims to promote co-operation in the fields of nuclear safety, radiation protection, safeguards, including material accountancy, physical protection, export and import control and illicit trafficking of nuclear material and equipment, for the peaceful uses of nuclear energy.

The Swedish Nuclear Power Inspectorate (SKI) and the Swedish Institute of Radiation Protection (SSI) are appointed as the authorities responsible for implementing this Agreement for the Swedish Party. As regards Ukraine, pursuant to the recent restructuring of the Ukrainian executive authorities, the authorities designated as responsible for the implementation of the Agreement have been replaced by the Ministries of the Environment and Natural Resources and of Fuel and Energy.

Such co-operation may include:

- exchange or transfer of normative and technical documents as well as of computer soft- and hardware or technical equipment;
- education and training of personnel;
- organisation of joint seminars and projects;
- any other kind of co-operation deemed appropriate.

The Agreement provides that the Parties may identify certain information as confidential and protect intellectual property. It also establishes an exoneration of any import duty or taxes when the import into Ukraine forms part of the technical assistance provided by Sweden.

The Agreement is concluded for a renewable period of five years.

## MULTILATERAL AGREEMENTS

### Status of Conventions in the Field of Nuclear Energy

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

Since the last update in *Nuclear Law Bulletin* No. 53, 11 countries have become Contracting Parties to this Convention, namely Belgium, Bosnia and Herzegovina, Estonia, Lebanon, Liechtenstein, Panama, Peru, Philippines, the Republic of Moldova, Singapore and the Former Yugoslav Republic of Macedonia. Therefore, as of 19 April 2000, there are 79 Parties to this Convention, as set out in the table below.

*Status of signatures, ratifications, acceptances, approvals or accessions*

<b>State</b>	<b>Date of Signature</b>	<b>Date of Deposit of Instrument</b>
Afghanistan	26 September 1986	
Algeria	24 September 1987	
Argentina		17 January 1990 (accession)
Armenia		24 August 1993 (accession)
Australia	26 September 1986	22 September 1987 (ratification)
Austria	26 September 1986	21 November 1989 (ratification)
Bangladesh		7 January 1988 (accession)
Belarus	26 September 1986	26 January 1987 (ratification)
Belgium	26 September 1986	4 January 1999 (ratification)
Bosnia and Herzegovina		30 June 1998 (succession)
Brazil	26 September 1986	4 December 1990 (ratification)
Bulgaria	26 September 1986	24 February 1988 (ratification)
Cameroon	25 September 1987	
Canada	26 September 1986	
Chile	26 September 1986	
China	26 September 1986	10 September 1987 (ratification)
Costa Rica	26 September 1986	16 September 1991 (ratification)
Côte d'Ivoire	26 September 1986	
Croatia		29 September 1992 (succession)
Cuba	26 September 1986	8 January 1991 (ratification)
Cyprus		4 January 1989 (accession)
Czech Republic		24 March 1993 (succession)
Democratic People's Republic of Korea	29 September 1986	
Democratic Rep. of the Congo	30 September 1986	
Denmark	26 September 1986	

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Egypt	26 September	1986	17 October	1988 (ratification)
Estonia			9 May	1994 (accession)
Food and Agricultural Organization			19 October	1990 (accession)
Finland	26 September	1986	27 November	1990 (approval)
France	26 September	1986	6 March	1989 (approval)
Germany	26 September	1986	14 September	1989 (ratification)
Greece	26 September	1986	6 June	1991 (ratification)
Guatemala	26 September	1986	8 August	1988 (ratification)
Holy See	26 September	1986		
Hungary	26 September	1986	10 March	1987 (ratification)
Iceland	26 September	1986		
India	29 September	1986	28 January	1988 (ratification)
Indonesia	26 September	1986	12 November	1993 (ratification)
Iran, Islamic Republic of	26 September	1986		
Iraq	12 August	1987	21 July	1988 (ratification)
Ireland	26 September	1986	13 September	1991 (ratification)
Israel	26 September	1986	25 May	1989 (ratification)
Italy	26 September	1986	25 October	1990 (ratification)
Japan	6 March	1987	9 June	1987 (acceptance)
Jordan	2 October	1986	11 December	1987 (ratification)
Korea, Republic of			8 June	1990 (accession)
Latvia			28 December	1992 (accession)
Lebanon	26 September	1986	17 April	1997 (ratification)
Libyan Arab Jamahiriya			27 June	1990 (accession)
Liechtenstein	26 September	1986	19 April	1994 (ratification)
Malaysia	1 September	1987	1 September	1987 (signature)
Mali	2 October	1986		
Mauritius			17 August	1992 (accession)
Mexico	26 September	1986	10 May	1988 (ratification)
Monaco	26 September	1986	19 July	1989 (approval)
Mongolia	8 January	1987	11 June	1987 (ratification)
Morocco	26 September	1986	7 October	1993 (ratification)
Netherlands	26 September	1986	23 September	1991 (acceptance)
New Zealand			11 March	1987 (accession)
Nicaragua			11 November	1993 (accession)
Niger	26 September	1986		
Nigeria	21 January	1987	10 August	1990 (ratification)
Norway	26 September	1986	26 September	1986 (signature)
Pakistan			11 September	1989 (accession)
Panama	26 September	1986	1 April	1999 (ratification)

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Paraguay	2 October	1986		
Peru			17 July	1995 (accession)
Philippines			5 May	1997 (accession)
Poland	26 September	1986	24 March	1988 (ratification)
Portugal	26 September	1986		
Republic of Moldova			7 May	1998 (accession)
Romania			12 June	1990 (accession)
Russian Federation	26 September	1986	23 December	1986 (ratification)
Saudi Arabi			3 November	1989 (accession)
Senegal	15 June	1987		
Sierra Leone	25 March	1987		
Singapore			15 December	1997 (accession)
Slovak Republic			10 February	1993 (succession)
Slovenia			7 July	1992 (succession)
South Africa	10 August	1987	10 August	1987 (ratification)
Spain	26 September	1986	13 September	1989 (ratification)
Sri Lanka			11 January	1991 (accession)
Sudan	26 September	1986		
Sweden	26 September	1986	24 June	1992 (ratification)
Switzerland	26 September	1986	31 May	1988 (ratification)
Syrian Arab Republic	2 July	1987		
Thailand	25 September	1987	21 March	1989 (ratification)
Former Yugoslav Republic of Macedonia			20 September	1996 (succession)
Tunisia	24 February	1987	24 February	1989 (ratification)
Turkey	26 September	1986	3 January	1991 (ratification)
Ukraine	26 September	1986	26 January	1987 (ratification)
United Arab Emirates			2 October	1987 (accession)
United Kingdom of Great Britain and Northern Ireland	26 September	1986	9 February	1990 (ratification)
United States of America	26 September	1986	19 September	1988 (ratification)
Uruguay			21 December	1989 (accession)
Viet Nam			29 September	1987 (accession)
World Health Organisation			10 August	1988 (accession)
World Meteorological Organisation			17 April	1990 (accession)
Yugoslavia			9 April	1991 (accession)
Zimbabwe	26 September	1986		

### ***1986 Convention on Early Notification of a Nuclear Accident***

Since the last update in *Nuclear Law Bulletin* No. 53, 13 countries have become Contracting Parties to this Convention, namely Belgium, Bosnia and Herzegovina, Estonia, Lebanon,

Liechtenstein, Lithuania, Myanmar, Panama, Peru, Philippines, the Republic of Moldova, Singapore and the Former Yugoslav Republic of Macedonia. Therefore, as of 19 April 2000, there are 84 Parties to this Convention, as set out in the table below.

*Status of signatures, ratifications, acceptances, approvals or accessions*

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Afghanistan	26 September	1986		
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Australia	26 September	1986	22 September	1987 (ratification)
Austria	26 September	1986	18 February	1988 (ratification)
Bangladesh			7 January	1988 (accession)
Belarus	26 September	1986	26 January	1987 (ratification)
Belgium	26 September	1986	4 January	1999 (ratification)
Bosnia and Herzegovina			30 June	1998 (succession)
Brazil	26 September	1986	4 December	1990 (ratification)
Bulgaria	26 September	1986	24 February	1988 (ratification)
Cameroon	25 September	1987		
Canada	26 September	1986	18 January	1990 (ratification)
Chile	26 September	1986		
China	26 September	1986	10 September	1987 (ratification)
Costa Rica	26 September	1986	16 September	1991 (ratification)
Côte d'Ivoire	26 September	1986		
Croatia			29 September	1992 (succession)
Cuba	26 September	1986	8 January	1991 (ratification)
Cyprus			4 January	1989 (accession)
Czech Republic			24 March	1993 (succession)
Democratic People's Republic of Korea	29 September	1986		
Democratic Rep. of the Congo	30 September	1986		
Denmark	26 September	1986	26 September	1986
Egypt	26 September	1986	6 July	1988 (ratification)
Estonia			9 May	1994 (accession)
Food and Agricultural Organization			19 October	1990 (accession)
Finland	26 September	1986	11 December	1986 (approval)
France	26 September	1986	6 March	1989 (approval)
Germany	26 September	1986	14 September	1989 (ratification)
Greece	26 September	1986	6 June	1991 (ratification)
Guatemala	26 September	1986	8 August	1988 (ratification)
Holy See	26 September	1986		



<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Hungary	26 September	1986	10 March	1987 (ratification)
Iceland	26 September	1986	27 September	1989 (ratification)
India	29 September	1986	28 January	1988 (ratification)
Indonesia	26 September	1986	12 November	1993 (ratification)
Iran, Islamic Republic of	26 September	1986		
Iraq	12 August	1987	21 July	1988 (ratification)
Ireland	26 September	1986	13 September	1991 (ratification)
Israel	26 September	1986	25 May	1989 (ratification)
Italy	26 September	1986	8 February	1990 (ratification)
Japan	6 March	1987	9 June	1987 (acceptance)
Jordan	2 October	1986	11 December	1987 (ratification)
Korea, Republic of			8 June	1990 (accession)
Latvia			28 December	1992 (accession)
Lebanon	26 September	1986	17 April	1997 (ratification)
Liechtenstein	26 September	1986	19 April	1994 (ratification)
Lithuania			16 November	1994 (accession)
Luxembourg	26 September	1986		
Malaysia	1 September	1987	1 September	1987 (signature)
Mali	2 October	1986		
Mauritius			17 August	1992 (accession)
Mexico	26 September	1986	10 May	1988 (ratification)
Monaco	26 September	1986	19 July	1989 (approval)
Mongolia	8 January	1987	11 June	1987 (ratification)
Morocco	26 September	1986	7 October	1993 (ratification)
Myanmar			18 December	1997 (accession)
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New Zealand			11 March	1987 (accession)
Nicaragua			11 November	1993 (accession)
Niger	26 September	1986		
Nigeria	21 January	1987	10 August	1990 (ratification)
Norway	26 September	1986	26 September	1986 (signature)
Pakistan			11 September	1989 (accession)
Panama	26 September	1986	1 April	1999 (ratification)
Paraguay	2 October	1986		
Peru			17 July	1995 (accession)
Philippines			5 May	1997 (accession)
Poland	26 September	1986	24 March	1988 (ratification)
Portugal	26 September	1986	30 April	1993 (ratification)
Republic of Moldova			7 May	1998 (accession)
Romania			12 June	1990 (accession)
Russian Federation	26 September	1986	23 December	1986 (ratification)

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Saudi Arabi			3 November	1989 (accession)
Senegal	15 June	1987		
Sierra Leone	25 March	1987		
Singapore			15 December	1997 (accession)
Slovak Republic			10 February	1993 (succession)
Slovenia			7 July	1992 (succession)
South Africa	10 August	1987	10 August	1987 (ratification)
Spain	26 September	1986	13 September	1989 (ratification)
Sri Lanka			11 January	1991 (accession)
Sudan	26 September	1986		
Sweden	26 September	1986	27 February	1987 (ratification)
Switzerland	26 September	1986	31 May	1988 (ratification)
Syrian Arab Republic	2 July	1987		
Thailand	25 September	1987	21 March	1989 (ratification)
Former Yugoslav Republic of Macedonia			20 September	1996 (succession)
Tunisia	24 February	1987	24 February	1989 (ratification)
Turkey	26 September	1986	3 January	1991 (ratification)
Ukraine	26 September	1986	26 January	1987 (ratification)
United Arab Emirates			2 October	1987 (accession)
United Kingdom of Great Britain and Northern Ireland	26 September	1986	9 February	1990 (ratification)
United States of America	26 September	1986	19 September	1988 (ratification)
Uruguay			21 December	1989 (accession)
Viet Nam			29 September	1987 (accession)
World Health Organisation			10 August	1988 (accession)
World Meteorological Organisation			17 April	1990 (accession)
Yugoslavia	27 May	1987	8 February	1989 (ratification)
Zimbabwe	26 September	1986		

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

Since the last update in *Nuclear Law Bulletin* No. 55, Ukraine has become a Contracting Party to this Protocol. Therefore, as of 19 April 2000, 21 states are Party to this Protocol.

### ***1994 Convention on Nuclear Safety***

Since the last update in *Nuclear Law Bulletin* No. 64, EURATOM has become a Contracting Party to this Convention. Therefore, as of 19 April 2000, there are 53 Parties to this Convention, as set out in the table below.

*Status of signatures, ratifications, acceptances, approvals or accessions*

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Algeria	20 September	1994		
Argentina	20 October	1994	17 April	1997 (ratification)
Armenia	22 September	1994	21 September	1998 (ratification)
Australia	20 September	1994	24 December	1996 (ratification)
Austria	20 September	1994	26 August	1997 (ratification)
Bangladesh	21 September	1995	21 September	1995 (acceptance)
Belarus			29 October	1998 (accession)
Belgium	20 September	1994	13 January	1997 (ratification)
Brazil	20 September	1994	4 March	1997 (ratification)
Bulgaria	20 September	1994	8 November	1995 (ratification)
Canada	20 September	1994	12 December	1995 (ratification)
Chile	20 September	1994	20 December	1996 (ratification)
China	20 September	1994	9 April	1996 (ratification)
Croatia	10 April	1995	18 April	1996 (approval)
Cuba	20 September	1994		
Cyprus			17 March	1999 (accession)
Czech Republic	20 September	1994	18 September	1995 (approval)
Denmark	20 September	1994	13 November	1998 (acceptance)
Egypt	20 September	1994		
EURATOM			31 January	2000 (accession)
Finland	20 September	1994	22 January	1996 (acceptance)
France	20 September	1994	13 September	1995 (approval)
Germany	20 September	1994	20 January	1997 (ratification)
Ghana	6 July	1995		
Greece	1 November	1994	20 June	1997 (ratification)
Hungary	20 September	1994	18 March	1996 (ratification)
Iceland	21 September	1995		
India	20 September	1994		
Indonesia	20 September	1994		
Ireland	20 September	1994	11 July	1996 (ratification)
Israel	22 September	1994		
Italy	27 September	1994	15 April	1998 (ratification)
Japan	20 September	1994	12 May	1995 (acceptance)
Jordan	6 December	1994		
Kazakhstan	20 September	1996		
Korea, Republic of	20 September	1994	19 September	1995 (ratification)
Latvia			25 October	1996 (accession)
Lebanon	7 March	1995	5 June	1996 (ratification)
Lithuania	22 March	1995	12 June	1996 (ratification)
Luxembourg	20 September	1994	7 April	1997 (ratification)

<b>State</b>	<b>Date of Signature</b>		<b>Date of Deposit of Instrument</b>	
Mali	22 May	1995	13 May	1996 (ratification)
Mexico	9 November	1994	26 July	1996 (ratification)
Monaco	16 September	1996		
Morocco	1 December	1994		
Netherlands	20 September	1994	15 October	1996 (acceptance)
Nicaragua	23 September	1994		
Nigeria	21 September	1994		
Norway	21 September	1994	29 September	1994 (ratification)
Pakistan	20 September	1994	30 September	1997 (ratification)
Peru	22 September	1994	1 July	1997 (ratification)
Philippines	14 October	1994		
Poland	20 September	1994	14 June	1995 (ratification)
Portugal	3 October	1994	20 May	1998 (ratification)
Republic of Moldova			7 May	1998 (accession)
Romania	20 September	1994	1 June	1995 (ratification)
Russian Federation	20 September	1994	12 July	1996 (acceptance)
Singapore			15 December	1997 (accession)
Slovak Republic	20 September	1994	7 March	1995 (ratification)
Slovenia	20 September	1994	20 November	1996 (ratification)
South Africa	20 September	1994	24 December	1996 (ratification)
Spain	15 November	1994	4 July	1995 (ratification)
Sri Lanka			11 August	1999 (accession)
Sudan	20 September	1994		
Sweden	20 September	1994	11 September	1995 (ratification)
Switzerland	31 October	1995	12 September	1996 (ratification)
Syrian Arab Republic	23 September	1994		
Tunisia	20 September	1994		
Turkey	20 September	1994	8 March	1995 (ratification)
Ukraine	20 September	1994	8 April	1998 (ratification)
United Kingdom of Great Britain and Northern Ireland	20 September	1994	17 January	1996 (ratification)
United States of America	20 September	1994	11 April	1999 (ratification)
Uruguay	28 February	1996		

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

Three countries, namely Finland, Latvia and Switzerland, have become Contracting Parties since the last update in *Nuclear Law Bulletin* No. 64. Therefore, as of 19 April 2000, there are 16 Parties to this Convention.

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## **OECD Nuclear Energy Agency**

### *1999 Update of the Analytical Study on Nuclear Legislation in OECD countries*

This fourth update of the *Analytical Study on Nuclear Legislation in OECD Member Countries* is the first completely new edition since its initial publication by the OECD Nuclear Energy Agency in 1995. As with the 1995 Edition and the subsequent partial updates, it is organised on the basis of a standardised format for all countries, thus facilitating the search for and comparison of information. This publication provides reliable information on the nuclear legislation and institutional framework governing nuclear activities in all OECD countries, as it stands in December 1999.

## **International Nuclear Law Association**

### *A 25 years story, French Branch of the International Nuclear Law Association, Paris, 1999, 280 pages*

This publication recounts the Association's history since its very origins in 1972 until its 25<sup>th</sup> anniversary in 1997. The historical section contains the letters exchanged between the Association's founders. Furthermore, this publication comprises legal texts which serve as a basis for INLA, in particular its statutes, as well as the programmes of all congresses held between 1973 and 1997. A chapter is also devoted to the work of the Association.

## **Sweden**

### *Report on Combating Illicit Trafficking, SKI, Stockholm, 2000*

This Report contains a study conducted by the Illicit Trafficking Combat Project Group for the Swedish Nuclear Power Inspectorate (SKI), the Latvian Ministry of Environmental Protection and Regional Development and the Norwegian Radiation Protection Authority. It sets out the different means and procedures existing at national and international levels to detect and combat illicit trafficking and nuclear weapon proliferation. The study refers to Scandinavian practices, but with a view to its implementation in the New Independent States and the Baltic States, it identifies activities carried out for this purpose actions in various areas, such as physical protection, export and import control and radiation protection, and suggests measures for the improvement of the infrastructures concerned, including legislation, instructions for authorities and co-operation agreements.

The Report is comprised of several Parts. After the introduction which includes *inter alia* a definition of the term “illicit trafficking”, it examines potential threats, such as proliferation of weapons of mass destruction and illicit trafficking. Those persons who play a role in the illicit trafficking market are also mentioned. The second Part is devoted to prevention and, in particular, to the relevant infrastructures for combating illicit trafficking, namely legislation, state control, responsibilities of operators, physical protection and export and import control. The third Part deals with national and international detection and investigation mechanism. Lastly, the fourth and fifth Parts set out proposals with a view to improving existing regimes.

Ten Annexes are found at the end of the Report, including *inter alia* a review of different national regimes and the international regime in this field, as well as sanctions and penalties for illicit trafficking.

The Report is available on SKI web site at [www.ski.se](http://www.ski.se)

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# ARMENIA

## The Law for the Safe Utilisation of Atomic Energy for Peaceful Purposes\*

adopted on 1 February 1999

This Law defines the legal basis and relations settlement principles applying to the utilisation of atomic energy, which aim to protect human life, health, property and the environment, to encourage the advancement of nuclear science and technical development and to co-operate in the strengthening of the international regime governing the safe utilisation of atomic energy.

### Section 1

#### GENERAL PROVISIONS

##### *Article 1*

#### Basic Terms Used in this Law

The following terms are used in this Law:

**Personnel** – any person who, temporary or permanently, works at an atomic energy utilisation object.

**Safety** – nuclear and radiation safety.

**Safety culture** – a set of characteristics and features of individuals' behaviour and activities of enterprises, institutions and organisations (hereinafter referred to as “enterprises”) that ensures the predominance of safety requirements over other requirements.

**Supervised area** – an area designated outside the atomic energy utilisation object where control of the radiation situation is performed during the normal operation of the object.

**Regulatory Authority** – a state authority empowered with regulatory powers in the field of the utilisation of atomic energy.

**Ionising radiation** – radiation capable of producing ion pairs in biological substances.

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\* Translation kindly provided by the Armenian authorities.

**Ionising radiation source** – a physical object capable of emitting ionising radiation.

**Licence** – an authorisation granted by the regulatory authority on the basis of the safety assessment and accompanied by the requirements and conditions that must be fulfilled by a licensee.

**Licensee** – a legal or physical person holding a licence.

**Special materials, equipment and technology** – materials, equipment and technology useful for the manufacture of nuclear weapons.

**Radioactive material** – material, other than nuclear material, that emits ionising radiation capable of causing nuclear damage.

**Nuclear material** – fissionable material that can be used for a chain reaction.

**Nuclear facility** – a facility where nuclear materials are produced, used, reprocessed, stored or transported.

**Nuclear damage** – damage that can be caused to the health of an individual, to the property of legal and/or physical persons, as well as to state property, and capable of causing environment contamination as a result of a nuclear or radiological accident.

**Radioactive waste** – radioactive material for which no further purpose is foreseen and which is subject to isolation from the environment.

**Nuclear accident** – any event which causes nuclear damage or an imminent threat of nuclear damage.

**National emergency response system** – all of the state authorities and organisations that fulfil functions defined in the emergency response plans in the event of an emergency at an atomic energy utilisation object.

**Atomic energy utilisation object** – nuclear materials, radioactive materials, radioactive waste, other sources of ionising radiation, special materials, equipment and technologies as well as nuclear facilities, radioactive waste facilities or any other object where activities involving ionising radiation sources, nuclear, radioactive and special materials or radioactive waste are carried out.

## *Article 2*

### **The Legislation of the Republic of Armenia for the Safe Utilisation of Atomic Energy for Peaceful Purposes**

1. In the Republic of Armenia the relations involved in the field of atomic energy utilisation are governed by the Constitution of the Republic of Armenia, the international treaties ratified by the Republic of Armenia, this Law and other legal acts.
2. If the international treaties ratified by the Republic of Armenia stipulate other regulations than those established in this Law, the regulations of the treaty are applied.

### *Article 3*

#### **The Principles and Tasks of Legal Regulation in the Field of Atomic Energy Utilisation**

1. The basic principles of legal regulation in the field of atomic energy utilisation are as follows:
  - a) to ensure the protection of individuals, the public and the environment from nuclear damage during the use of atomic energy;
  - b) to ensure that safety conditions predominate during the use of atomic energy;
  - c) to guarantee the availability of information that does not contain state or official secrets concerning the use of atomic energy;
  - d) to provide for the participation of the concerned legal and physical persons in discussions of drafts of legislative and other legal acts;
  - e) to ensure compensation for nuclear damage.
2. The basic tasks of legal regulation in the field of atomic energy utilisation are as follows:
  - a) to establish the legal basis for the regulation and safety of the use of atomic energy;
  - b) to determine the respective jurisdiction of the Government of the Republic of Armenia, republican and regional state authorities and local authorities in the field of atomic energy utilisation.

### *Article 4*

#### **Types of Activities in the Field of Atomic Energy Utilisation**

1. This Law applies to the following types of activities in the field of atomic energy utilisation:
  - a) the state regulation of nuclear and radiation safety;
  - b) site selection for atomic energy utilisation objects, their design, construction, operation and decommissioning;
  - c) activities involving nuclear and radioactive materials, including their transport, export, import, use, storage and disposal;
  - d) accounting and control of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies;
  - e) physical protection of atomic energy utilisation objects;
  - f) control of the radiation situation in the Republic of Armenia;
  - g) training and retraining of personnel in the field of atomic energy utilisation;



- h) implementation of other activities in the field of atomic energy utilisation.
- 2. Issues related to fire, technical, health and ecological protection of atomic energy utilisation objects are governed by the laws and other legal acts in agreement with the regulatory authority.

#### *Article 5*

#### **Ownership of Atomic Energy Utilisation Objects**

- 1. In the Republic of Armenia, nuclear facilities, nuclear and special materials, special equipment and technologies are considered to be the property of the Republic of Armenia.
- 2. Other atomic energy utilisation objects that are not mentioned under sub-section 1 may be under any type of ownership.
- 3. The rights and obligations of owners of atomic energy utilisation objects are determined by this Law, the laws of the Republic of Armenia and other legal acts.

#### *Article 6*

#### **Safety Regulations and Rules**

- 1. The nuclear and radiation safety rules and regulations (hereinafter referred to as “safety rules and regulations”) determine those criteria, requirements and conditions governing the safe use of atomic energy, fulfilment of which is mandatory in respect of any activity performed in the field of atomic energy utilisation.
- 2. The procedure of development, agreement and approval of safety rules and regulations is determined by this Law and other legal acts.

#### **Section 2**

#### THE JURISDICTION OF STATE AND LOCAL AUTHORITIES IN THE FIELD OF ATOMIC ENERGY UTILISATION

#### *Article 7*

#### **The Jurisdiction of the Government of the Republic of Armenia in the Field of Atomic Energy Utilisation**

In the field of atomic energy utilisation, the Government of the Republic of Armenia:

- a) determines the basic orientation of scientific research, investment and state structural policy;

- b) organises the development and approval of the target state programmes and develops the activities necessary to ensure their implementation;
- c) approves the list of special materials, equipment and technologies submitted by the regulatory authority;
- d) approves the list of objects important in terms of safety submitted by the regulatory authority and the licensing procedure for their construction and decommissioning;
- e) authorises the construction and decommissioning of atomic energy utilisation objects important in terms of safety;
- f) organises measures to protect the public, the personnel of atomic energy utilisation objects and the environment from the harmful effects of ionising radiation;
- g) organises measures for the preparedness of the state authorities and enterprises involved in the national emergency response system for possible emergency situations at atomic energy utilisation objects and for mitigation of their consequences;
- h) organises in the Republic of Armenia the system of radiation situation control and determines the procedure of respective activities of the state authorities involved in this system;
- i) organises the provision of necessary financial means as required under Article 36 of this Law for compensation of nuclear damage;
- j) organises the physical protection of atomic energy utilisation facilities;
- k) approves the safety rules and regulations submitted by the regulatory authority;
- l) approves the list of activities and positions important in terms of safety submitted by the regulatory authority;
- m) guarantees the fulfilment of international commitments made by the Republic of Armenia pursuant to international treaties in the field of atomic energy utilisation which it has ratified;
- n) co-ordinates the international activities performed by the Republic of Armenia in the field of atomic energy utilisation;
- o) performs other authorities determined by this Law and the laws of the Republic of Armenia.

## *Article 8*

### **Jurisdiction of the Republican State Authorities in the Field of Atomic Energy Utilisation**

The republican state authorities in the field of atomic energy utilisation:

- a) define scientific, technical, investment and state structural policy in the field of atomic energy utilisation;
- b) ensure the management of the state-owned atomic energy utilisation objects;
- c) develop safety rules and regulations in agreement with the regulatory authority;
- d) develop and perform safety-related measures for those objects that are under their jurisdiction;
- e) develop and perform measures for protection against fire, and for the technical, health and ecological protection of atomic energy utilisation objects;
- f) develop and perform measures for the physical protection of atomic energy utilisation objects;
- g) organise the training of personnel who carry out activities in the field of atomic energy utilisation;
- h) ensure the preparedness of the bodies under their control for response to emergencies at atomic energy utilisation objects and for implementation of protective measures;
- i) organise and perform the radiation situation control at atomic energy utilisation objects and their supervised areas;
- j) organise and perform state accounting and control of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies;
- k) organise and perform controls on the export and import of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies;
- l) perform other authorities determined by the legislation of the Republic of Armenia.

## *Article 9*

### **The Jurisdiction of the Regional State Authorities in the Field of Atomic Energy Utilisation**

In the field of atomic energy utilisation the regional state authorities, in their respective jurisdictions:

- a) ensure the fulfilment in each region of requirements established in the legislation of the Republic of Armenia for the safe use of atomic energy for peaceful purposes;
- b) participate in the development of emergency response plans at atomic energy objects;

- c) organise and implement measures to protect the population of the community and to mitigate the consequences of radiological accidents.

### *Article 10*

#### **The Jurisdiction of Local Authorities in the Field of Atomic Energy Utilisation**

In the field of atomic energy utilisation, the local authorities are empowered by the state to do the following:

- a) ensure the participation of the population of the community in public discussions and investigations on the design of atomic energy utilisation objects to be constructed on the territory of that community;
- b) grant construction licenses, as required by the legislation and other legal acts, for atomic energy utilisation objects of local importance on the territory of the community;
- c) organise and implement measures for the protection of the population of the community in the event of a radiological accident, and to mitigate the consequences of such an accident.

### **Section 3**

#### **RIGHTS OF LEGAL AND PHYSICAL PERSONS IN THE FIELD OF ATOMIC ENERGY UTILISATION**

### *Article 11*

#### **The Right to Implement Activities in the Field of Atomic Energy Utilisation**

In the Republic of Armenia, the persons licensed in the manner prescribed have the right to implement measures in the field of atomic energy utilisation. Their rights, obligations and responsibilities are determined by this Law and other legal acts of the Republic of Armenia and the terms of their licence.

### *Article 12*

#### **The Right to Obtain Information in the Field of Atomic Energy Utilisation**

Legal and physical persons of the Republic of Armenia have the right to obtain information from the competent state authorities about the safety of objects being designed, constructed, operated and decommissioned, as well as information concerning the radiation situation in the Republic of Armenia, to the extent that this information does not contain state or official secrets.

### *Article 13*

#### **The Right to Compensation for Nuclear Damage**

1. Legal and physical persons who suffer nuclear damage have the right to receive compensation for such damage.
2. The measures, procedures and terms governing compensation of nuclear damage as well as its financial sources are determined by the legislation of the Republic of Armenia.

### *Article 14*

#### **The Right of Patients Exposed to Radiation for Medical Purposes**

1. The option of being exposed to radiation for medical purposes is assigned to the citizen or his legal representative.
2. A medical practitioner is obliged to provide information to a citizen who may be or who has been exposed to radiation for medical purposes, about the radiation dose which will be or which has been administered to him.

### **Section 4**

#### **STATE REGULATION ON SAFETY IN THE FIELD OF ATOMIC ENERGY UTILISATION**

### *Article 15*

#### **State Regulatory Authority in the Field of Atomic Energy Utilisation**

State regulation in the field of atomic energy utilisation is performed by the state regulatory authority which reports directly to the Government of the Republic of Armenia and is financed from the state budget.

### *Article 16*

#### **The Jurisdiction of the Regulatory Authority**

The regulatory authority:

- a) develops and submits for approval to the Government of the Republic of Armenia safety regulations and rules;
- b) carries out safety assessments of activities, objects and equipment in the field of atomic energy utilisation;

- c) is responsible for the licensing of activities in the field of atomic energy utilisation, as well as the licensing of physical persons carrying out important roles and implementing measures important in terms of safety;
- d) controls the fulfilment of the requirements of the legislation of the Republic of Armenia for the Safe Utilisation of Atomic Energy for Peaceful Purposes as well as the fulfilment of licence conditions by legal and physical persons;
- e) withdraws licences if a licensee does not fulfil the terms and conditions of the licence;
- f) submits reports to the President, the National Assembly and the Government of the Republic of Armenia at least every three months on the nuclear and radiation safety situation in the Republic of Armenia, in certain parts of the territory or on certain atomic energy utilisation objects;
- g) provides the state and local authorities, enterprises and organisations, and mass media sources with concise information on nuclear and radiation safety issues;
- h) controls the preparedness of the operating organisations of atomic energy utilisation objects as well as that of the state authorities and enterprises involved in the national system of emergency response;
- i) in the event of an emergency, assesses the situation in atomic energy utilisation objects, provides a prognosis on possible changes in the object and adjacent territories and gives recommendations on the implementation of necessary protective measures to the state authorities and enterprises involved in the national emergency response system;
- j) is responsible for the early international notification of an emergency occurring at an atomic energy utilisation object or during implementation of activities at an atomic energy utilisation object;
- k) organises and performs investigations on safety improvement in the field of atomic energy utilisation;
- l) controls the fulfilment of the commitments of the Republic of Armenia pursuant to international treaties which it has ratified, jointly with the state authority entrusted by the Government of the Republic of Armenia with responsibility for international relations;
- m) controls the safeguards applicable to nuclear and special materials, special equipment and technologies;
- n) co-operates with the competent international and foreign organisations on safety issues;
- o) performs other authorities determined by the legislation of the Republic of Armenia.

## *Article 17*

### **The Jurisdiction of State Inspectors of the Regulatory Authority**

1. The state inspectors have the right to:
  - a) inspect atomic energy utilisation objects and the activities carried out there freely and without obstruction, using the necessary measurement and registration instruments, including audio and video recorders;
  - b) enter official and industrial sites of atomic energy utilisation objects freely and without obstruction;
  - c) take samples and obtain data for the implementation of state control;
  - d) to install the necessary control devices in atomic energy utilisation objects;
  - e) where they have discovered a violation of the safety rules and regulations, to give orders to the licensees, and in the event of a threat to the population or the environment, to give orders to interrupt activities.
2. The state inspectors are obliged:
  - a) to respect the legislation of the Republic of Armenia in force;
  - b) not to make public any information about an inspected object that contains a state or official secret;
  - c) not to interfere with the normal course of activities in the inspected object;
  - d) to inform the officials of the inspected object of the rights and obligations of state inspectors;
  - e) to protect the rights as determined by law and the legal interests of the inspected object.
3. The state inspectors are liable for breach or for non-satisfactory fulfilment of their obligations in accordance with the legislation of the Republic of Armenia.

## **Section 5**

### LICENSING IN THE FIELD OF ATOMIC ENERGY UTILISATION

## *Article 18*

### **Licensing in the field of Atomic Energy Utilisation**

1. The licensing procedure applicable in the field of atomic energy utilisation is determined by this Law, the laws of the Republic of Armenia and other legal acts.

2. In the field of atomic energy utilisation the following are subject to licensing:
  - a) implementation of activities in relation to site selection, design, construction, preparation, commissioning, operation, use, maintenance, repair, reconstruction and decommissioning of nuclear facilities and radioactive waste facilities, ionising radiation sources and storage;
  - b) implementation of activities in relation to nuclear and radioactive materials and radioactive waste, including their transport, use, storage, reprocessing and disposal;
  - c) import and export of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies;
  - d) design and preparation of materials, equipment, devices and systems for atomic energy utilisation objects;
  - e) examination of atomic energy utilisation objects, their design and other documents.
3. The licence granted to carry out activities in the field of atomic energy utilisation confirms the rights of the licensee in relation to this activity and defines the necessary limits and conditions for the safe implementation of such activities. The license granted to the licensee to carry out such activities does not exempt him from fulfilment of other requirements as determined by other legal acts of the Republic of Armenia.
4. Licences in the field of atomic energy utilisation are granted for a fixed period of time for the activities listed in sub-section 2.
5. The adoption of new safety rules and regulations do not affect the validity of a licence. If the requirements set out in the licence do not correspond to the new safety rules and regulations, the licensee is obliged, within a fixed period of time, to develop corresponding organisational and technical measures in agreement with the regulatory authority.
6. If the licence granted to the operating organisation is withdrawn, the responsibility for safety conditions is passed on to the owner of the object. The owner of the facility will fulfil the responsibilities of the latter until a new operating organisation is created. Where the owner and the licensee of the object are one and the same person or entity, the question of responsibility for safety conditions is addressed in accordance with the applicable legislation of the Republic of Armenia.
7. The licence to the physical persons and persons holding high post and performing activities important in terms of safety in the field of atomic energy utilisation, is granted if the medical certificate is available. The procedures to acquire a medical certificate and the positions for which it is required as well as the procedures for medical examinations are determined by the Government of the Republic of Armenia.



## **Section 6**

### **OPERATION OF ATOMIC ENERGY UTILISATION OBJECTS**

#### ***Article 19***

##### **The Operating Organisation**

1. The operating organisation is a legal person authorised by the owner of the atomic energy utilisation object or a legal person recognised as such, which through its own resources or with the involvement of other legal persons, selects the site for the object and is responsible for its design, construction, operation, commissioning and decommissioning as well as the activities involving nuclear and radioactive materials carried out there.
2. The operating organisation is responsible for the safe operation of the atomic energy utilisation object, as well as for the safety measures applicable to the activities involving nuclear and radioactive materials carried out there.
3. It is prohibited to interfere in the activities of the operating organisation in respect of the operation of the atomic energy utilisation object, except where expressly provided by the Law and other legal acts of the Republic of Armenia.

#### ***Article 20***

##### **Jurisdiction of the Operating Organisation**

1. The operating organisation:
  - a) develops and implements safety measures in the atomic energy utilisation object;
  - b) ensures that a safety culture is maintained;
  - c) periodically submits reports in the manner prescribed on the safety of the object to the regulatory authority;
  - d) ensures that nuclear, radioactive and special materials, special equipment and technologies are put to useful purposes;
  - e) ensures the physical protection of atomic energy utilisation objects, nuclear, radioactive and special materials, special equipment and technologies;
  - f) develops the quality assurance programme for each stage in the lifetime of the atomic energy utilisation object (site selection, design, construction, commissioning, operation, decommissioning) and ensures its implementation;
  - g) organises the control of dose limits amongst personnel in the manner prescribed;
  - h) organises the accounting and control of nuclear, radioactive and special materials and radioactive waste;

- i) organises and conducts investigations in the manner prescribed into incidents and accidents occurring during the operation of atomic energy utilisation objects;
  - j) develops the response plan in the manner prescribed for emergencies occurring in the atomic energy utilisation object and ensures the preparedness of personnel and the necessary resources for its implementation;
  - k) develops the programme of activities for protection against fire in the atomic energy utilisation object and ensures its implementation;
  - l) organises the recruitment and training of skilled personnel to work in the atomic energy utilisation object, or with nuclear and radioactive materials;
  - m) ensures that the health and social conditions governing the personnel of the atomic energy utilisation object are in accordance with the current regulations;
  - n) carries out periodical safety assessments of the object to ascertain its compatibility with the most recent safety requirements;
  - o) performs other authorities determined by this Law and other legislative and legal acts of the Republic of Armenia.
2. The operating organisation of the atomic energy utilisation object carries out the following tasks important in terms of safety:
- a) establishes the services that control the nuclear and radiation safety;
  - b) organises the permanent control over the radiation situation in the controlled and supervised areas of the atomic energy utilisation object;
  - c) provides periodically the governor (mayor of Yerevan) of the territory included in the supervised area of the atomic energy utilisation object with information in the manner prescribed on the radiation situation in the supervised area.

## **Section 7**

### IONISING RADIATION SOURCES AND RADIOACTIVE WASTE

#### *Article 21*

##### **State System of Accounting and Control of Ionising Radiation Sources and Radioactive Waste**

1. Ionising radiation sources which are subject to safety regulation and radioactive waste existing or generated in the Republic of Armenia are subject to state registration, accounting and control.
2. The responsibility for the state registration of ionising radiation sources and radioactive waste is assigned to the licensees who manage such sources, or whose activities result in the generation of radioactive waste.

3. The list of ionising radiation sources subject to safety regulation and the procedure governing the state registration of ionising radiation sources and radioactive waste are determined by the Government of the Republic of Armenia upon proposal of the regulatory authority.

#### *Article 22*

##### **Transport, Export and Import of Nuclear and Radioactive Materials**

1. The transport of nuclear and radioactive materials is performed in accordance with the safety rules and regulations, as well as with the special transport rules that are approved by the Government of the Republic of Armenia upon proposal of the regulatory authority.
2. The import of radioactive waste into the Republic of Armenia from other states is prohibited except where the waste was generated by the other state as a result of rendering a certain service to the Republic of Armenia and their import into the Republic of Armenia is foreseen under the international treaties of the Republic of Armenia, to the extent that the quantity and general activity of the radioactive waste correspond to the current technological conditions.
3. The transport, export and import of radioactive waste are governed by this Law, other laws and the international treaties of the Republic of Armenia.

#### *Article 23*

##### **Prevention of Possible Extreme Situations during the Transport of Nuclear and Radioactive Materials and Response to these Situations**

The transport companies which transport nuclear and radioactive materials, together with exporters and receiving persons and if necessary, jointly with other state authorities, are obliged to develop, in agreement with the regulatory authority, a plan related to the prevention of traffic accidents, localisation and mitigation of their consequences, and plans on protection of the personnel of atomic energy utilisation objects, the public, the environment and material property. The procedures governing the development and agreement of such plans are determined by the Government of the Republic of Armenia upon proposal of the regulatory authority.

#### *Article 24*

##### **Storage and Disposal of Radioactive Waste**

1. The storage and disposal of radioactive waste is permitted only in special storage facilities created for such a purpose.
2. The procedure governing radioactive waste collection, storage and disposal is determined by the Government of the Republic of Armenia upon proposal of the regulatory authority.

## **Section 8**

### **PHYSICAL PROTECTION OF ATOMIC ENERGY UTILISATION OBJECTS**

#### ***Article 25***

##### **Physical Protection of Atomic Energy Utilisation Objects**

1. The physical protection standards governing atomic energy utilisation objects are a set of technical and organisational measures which aim to:
  - a) prevent entrance of strangers into atomic energy utilisation objects and facilities or locations where nuclear, radioactive and special materials, radioactive waste and special equipment are stored;
  - b) prevent strangers from approaching nuclear, radioactive and special materials, radioactive waste and special equipment;
  - c) discover and prevent in a timely manner any attempt to steal or destroy nuclear, radioactive or special materials, radioactive waste, special equipment or technologies;
  - d) discover and prevent in a timely manner any actions of diversion or terrorism which threaten the safety of atomic energy utilisation objects;
  - e) discover and return nuclear, radioactive or special materials, radioactive waste, special equipment or technologies which have been lost or stolen.
2. Licensees are responsible for the physical protection of atomic energy utilisation objects under their jurisdiction and, if necessary, can use the services of special organisations empowered by the state authorities.
3. The state regulation of physical protection of atomic energy utilisation objects is performed by the regulatory authority.
4. The physical protection of atomic energy utilisation objects is ensured during all stages of their design, construction, operation and decommissioning.

#### ***Article 26***

##### **Requirements Concerning the Physical Protection of Atomic Energy Utilisation Objects**

1. The requirements governing the physical protection of atomic energy utilisation objects are determined by the safety regulations.
2. The operation of atomic energy utilisation objects as well as any activities involving nuclear, radioactive or special materials, radioactive waste, special equipment or technologies during each stage of their production, use, reprocessing, transportation or storage are prohibited if physical protection is not ensured.

## **Section 9**

### **LEGAL LIMITATIONS IN THE FIELD OF ATOMIC ENERGY UTILISATION**

#### *Article 27*

##### **Establishment of a Special Legal Regime on the Site of Atomic Energy Utilisation Objects Important in Terms of Safety**

1. A special legal regime may be established on the site of an atomic energy utilisation object, which is important in terms of safety.
2. The procedure governing the establishment of such a special legal regime, the sizes of corresponding zones and the type of limitations applicable in the zones are governed by this Law and other legal acts of the Republic of Armenia.
3. The responsibility for adhering to the established special legal regime on the territory of the site of an atomic energy utilisation object important in terms of safety is assigned to the operating organisation which has jurisdiction over that object.

#### *Article 28*

##### **Limitation of Rights of Persons working in the Premises of Enterprises that Perform Activities involving the Use of Atomic Energy Utilisation Objects**

1. With a view to ensuring physical protection, the personnel, expert missions and visitors of enterprises that perform activities involving the use of atomic energy utilisation objects, nuclear, radioactive or special materials, radioactive waste, special equipment or technologies, their personal belongings and means of transportation are subject to inspection using special equipment capable of revealing ammunition, weapons, explosive or toxic substances, or other devices useful for diversion.
2. It is prohibited to enter, without appropriate permission, into the designated areas and checkpoints established around the enterprises that perform activities involving the use of atomic energy utilisation objects, nuclear, radioactive or special materials, radioactive waste, special equipment or technologies. It is furthermore forbidden to take photographs, video recordings or films of the engineering and technical protective systems and tools.

#### *Article 29*

##### **Restriction of the Right to Work at Atomic Energy Utilisation Objects**

Activities involving the use of atomic energy utilisation objects, nuclear, radioactive or special materials, radioactive waste, special equipment or technologies must not be performed by:

- a) persons with restricted capabilities or persons recognised as disabled in the manner prescribed pursuant to the legislation of the Republic of Armenia;

- b) persons who suffer from diseases as set out in a list of medical conditions in relation to the use of atomic energy utilisation objects and ionising radiation sources;
- c) persons who are not entitled to have knowledge of state and official secrets for implementation of the present work.

### *Article 30*

#### **Limitation of Rights to Conduct Public Activities On and Outside the Territory of Nuclear Facilities and/or Radioactive Waste Facilities**

1. The operating personnel of a nuclear or radioactive waste facility are strictly forbidden to organise and conduct strikes.
2. It is prohibited to hold unauthorised meetings, public meetings, marches and other public activities on the territory of a nuclear or radioactive waste facility.
3. It is prohibited to hold unauthorised meetings, public meetings, marches, barricades of roads and other public activities outside the territory of a nuclear or radioactive waste facility where such actions are liable to disturb the operation of the nuclear or radioactive waste facility or prevent the personnel of the facility or of the regulatory authority from fulfilling their official responsibilities and/or to create a situation threatening the safety of the public and the environment.
4. If, as a consequence of the actions mentioned under sub-paragraph 3, damage is caused to the state and/or to the owner of the atomic energy utilisation object and/or to the citizens, such damage is subject to compensation in the manner prescribed pursuant to the legislation of the Republic of Armenia.

### **Section 10**

#### **SAFEGUARDS FOR NUCLEAR, RADIOACTIVE AND SPECIAL MATERIALS, RADIOACTIVE WASTE, SPECIAL EQUIPMENT AND TECHNOLOGIES**

### *Article 31*

#### **State System of Accounting and Control of Nuclear, Radioactive and Special Materials, Equipment and Technologies**

1. In the Republic of Armenia, nuclear and radioactive materials, equipment and technologies are subject to state accounting and control.
2. In the Republic of Armenia, state accounting and control of nuclear and special materials, equipment and technologies is organised and performed by the regulatory authority.
3. The procedure governing state accounting and control of nuclear and special materials, equipment and technologies is determined by the laws of the Republic of Armenia and other legal acts.

### *Article 32*

#### **Limitations to the Export of Nuclear, Radioactive and Special Materials, Radioactive Waste, Special Equipment and Technologies**

1. It is prohibited to export from the Republic of Armenia nuclear, radioactive and special materials, radioactive waste, special equipment and technologies to countries that:
  - a) have not made a commitment to use these materials, equipment and technologies exclusively for peaceful purposes;
  - b) do not ensure their physical protection;
  - c) have not provided assurances concerning the existence in their countries of a state system of accounting and control of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies;
  - d) have not made any commitments in terms of export of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies to third countries.
2. Issues related to the transit of nuclear, radioactive and special materials, radioactive waste, special equipment and technologies across the territory of the Republic of Armenia are governed by the legislation of the Republic of Armenia and international treaties.

### **Section 11**

#### **NUCLEAR DAMAGE AND COMPENSATION**

### *Article 33*

#### **Nuclear Damage and Liability for Compensation**

1. The liability for nuclear damage caused to physical and legal persons or to the environment as a result of activities carried out in the field of atomic energy utilisation is assigned to the licensee carrying out such activities.
2. Nuclear damage caused to legal and physical persons, to their privacy or to the environment due to exposure to radiation and a number of other dangerous factors is subject to compensation.
3. If a person suffers simultaneously nuclear damage and other damage, which cannot be reasonably separated from the nuclear damage, such damage is also subject to compensation.

### *Article 34*

#### **Substantiation of Liability for Nuclear Damage and Compensation for Nuclear Damage**

1. In accordance with this law, the liability of a licensee for nuclear damage is established when it is proved that the damage was caused as a result of events which occurred at an atomic energy utilisation object.
2. The liability of a licensee for nuclear damage is also established when it is proved that the damage was caused as a result of events connected with nuclear and/or radioactive materials or radioactive waste received or manufactured for the atomic energy utilisation object under his management if the licensee has, before the event, assumed liability in writing for those materials or waste or where possession has not yet passed to another organisation.
3. The licensee is released from liability for nuclear damage and its compensation, if it is the result of military actions, arson, natural disaster or the intentional action of other legal and physical persons.
4. If the licensee proves that the nuclear damage was totally or partially caused by the intentional action of a victim, he is totally or partially released from liability in respect of nuclear damage compensation to that person. The licensee is released from liability for nuclear damage compensation in legal form.

### *Article 35*

#### **Types and Measures of Liabilities for Nuclear Damage Compensation**

1. The types and amounts of liability of licensees for nuclear damage are determined by the legislation of the Republic of Armenia and other legal acts.
2. Measures for nuclear damage compensation for any accident must not be less than the measures established in the international treaties to which the Republic of Armenia is a Party.

### *Article 36*

#### **Financial Provision for Nuclear Damage Compensation**

1. In order to ensure the compensation of nuclear liability licensees are obliged to have sufficient financial resources; the procedures of establishment and use of these financial resources are determined by the laws of the Republic of Armenia and other legal acts.
2. Where liability for nuclear damage is assumed by the licensee, and the amount necessary to compensate the nuclear damage exceed the measures foreseen in Article 35 of this law, the Government of the Republic of Armenia ensures the payment of the necessary additional amounts.



## Section 12

THE RESPONSIBILITY FOR VIOLATION OF THE LEGISLATION OF THE REPUBLIC OF ARMENIA FOR THE SAFE UTILISATION OF ATOMIC ENERGY FOR PEACEFUL PURPOSES

### *Article 37*

#### **The Responsibilities of Legal and Physical Persons as well as Citizens Performing Activities in the Field of Atomic Energy Utilisation for Breaches of the Legislation of the Republic of Armenia for the Safe Utilisation of Atomic Energy for Peaceful Purposes**

Legal and physical persons as well as citizens performing activities in the field of atomic energy utilisation are responsible for breaches of the legislation of the Republic of Armenia for the Safe Utilisation of Atomic Energy for Peaceful Purposes of the manner prescribed pursuant to the legislation of the Republic of Armenia.

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# CROATIA

## Act on Protection Against Ionising Radiation\*

adopted on 5 March 1999

### I. GENERAL PROVISIONS

#### *Article 1*

This Act determines the principles governing protection and safety precautions against ionising radiation, handling of emergency situations, treatment of radioactive waste and control over the application of safety precautions against ionising radiation, with a view to ensuring safety and reducing risks to the lives and health of the public as well as protecting the environment for present and future generations.

#### *Article 2*

For the purposes of this Act:

1. "Ionising radiation" means electromagnetic, particle or any other radiation whose passage through matter causes, directly or indirectly, the emergence of pairs of positively or negatively electrically charged ions.
2. "Radiation exposure" means exposure to ionising radiation. It can be external or internal, depending on whether the source of ionising radiation is outside or inside the human body.
3. "Ionising radiation source" means every device, plant or material which produces or emits ionising radiation.
4. "Radioactive materials" means those materials which contain *inter alia* atoms with unstable nuclei which, in the course of their disintegration, produce ionising radiation.
5. "Activity of a radioactive material" means the amount of radioactive disintegrations per time unit.

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\* Unofficial translation carried out by Evelin Toth Mucciacciaro, translator, in co-operation with the Secretariat of the NEA.

6. “Radioactive waste” means a waste substance resulting from the performance of an activity involving ionising radiation sources or in the course of the nuclear fuel cycle, regardless of its physical form and chemical characteristics, which contains radioactive materials whose activity, concentration or radiation is above the level determined by the Minister of Health based on international recommendations.
7. “Activities involving ionising radiation sources” means production, transportation and use of radioactive materials and other activities related to ionising radiation which the Minister of Health determines pursuant to this Act.
8. “Transportation of ionising radiation sources” means their procurement, transmission, transportation and carriage, processing, import, export, lease, succession and cession.
9. “Nuclear fuel cycle” means all activities related to the production of nuclear energy including prospecting for raw materials and the production of nuclear fuel, the use of nuclear fuel in a nuclear reactor, the termination of work and decommissioning of a nuclear reactor, the storage of radioactive waste originating from nuclear plants and all research work related to these activities.
10. “Interventions” means systematic measures, planned in advance, which reduce the existing level of exposure to ionising radiation or the possibility of being exposed to ionising radiation as a consequence of emergency situations.
11. “Intervention levels” means the levels of expected exposure to radiation which could occur as a consequence of an emergency situation or chronic exposure of the public to ionising radiation in the environment, where special safety precautions are taken.
12. “Emergency situation” means a situation related to activities involving ionising radiation or the safety of nuclear plants caused by circumstances which are no longer under control, resulting in exposure to increased levels of radiation of employees working with ionising radiation sources, of the public or in the radioactive pollution of the environment.
13. “Nuclear plant” means a nuclear reactor, nuclear power plant, nuclear heating plant, research nuclear reactor, uranium or thorium mine, plant for the gradual enrichment of uranium, plant for the manufacture of fuel elements, plant for the processing and disposal of contaminated nuclear fuel and the buildings with plants and equipment intended for the storage, processing and disposal of materials deriving from the nuclear fuel cycle and plant for the treatment and disposal of radioactive waste.
14. “Sievert (Sv)” means a unit of the international system of units of measurement which is used for protection against ionising radiation to express the public’s exposure to ionising radiation sources.

### *Article 3*

The Act does not apply to natural ionising radiation originating from outer space, the Earth’s crust and the human body, if unchanged by the activity of man.

#### *Article 4*

Pursuant to this Act, ionising radiation sources are:

- X-ray machines and other electrical machinery which produces ionising radiation;
- radioactive materials and machinery and plants containing such materials;
- radioactive waste;
- nuclear plants and all materials and objects from the nuclear fuel cycle regardless of their purpose, shape, or physical or chemical state, which can cause exposure to radiation of an individual or radioactive contamination of the environment above the limits determined pursuant to this Act;
- radioactive materials which can be found in the environment due to nuclear explosions, emergency situations or due to any other reason which is a consequence of man's activity;
- all activities or interventions related to ionising radiation sources.

## II. PRINCIPLES OF PROTECTION AGAINST IONISING RADIATION

#### *Article 5*

Safety precautions against ionising radiation must ensure the implementation of the principles of justification, optimisation and limitation of exposure to radiation.

Implementing legislation which is adopted pursuant to this Act shall ensure that the Act is implemented in accordance with international agreements and implementing regulations binding the Republic of Croatia and in accordance with the internationally-accepted expert recommendations.

#### *Article 6*

The principle of justification, in relation to activities involving ionising radiation, is achieved if the overall benefit to an individual and society, resulting from such activities, is greater than the damage caused by exposure to ionising radiation.

The application of ionising radiation sources in medicine is justified if it produces the highest possible diagnostic or therapeutic effect with the minimal possible exposure to radiation of a patient, taking into consideration medical and technological factors.

The principle of justification in relation to interventions is achieved insofar as each intervention brings about positive effects taking into consideration social, economic and health factors.

### *Article 7*

The principle of optimisation of protection against ionising radiation in relation to activities is achieved by the application of safety precautions pursuant to which the exposure of workers and other persons to ionising radiation from all such activities and ionising radiation sources is reduced to as low a level as is reasonably possible, within the prescribed limits, taking into consideration technical, organisational, economic, health and social factors.

The principle of optimisation in relation to interventions is achieved in such a way that the implementation, volume and duration of each intervention must achieve the most positive effect which is reasonably possible.

### *Article 8*

The principle of limitation of exposure to radiation for activities is implemented by taking safety precautions specified by the Act to ensure that the exposure of persons to ionising radiation is lower than the established limits of exposure to radiation.

## III. SAFETY PRECAUTIONS AGAINST IONISING RADIATION

### *Article 9*

Safety precautions against ionising radiation are the following:

1. systematic examination and detection of the presence, type and extent of ionising radiation and radioactive sources in the environment;
2. establishment of the limits of external and internal exposure of the public to ionising radiation;
3. establishment of conditions governing the siting, construction and operation of facilities where ionising radiation sources are used;
4. establishment of conditions governing ionising radiation sources and activities involving ionising radiation;
5. establishment of conditions governing the implementation of interventions in the case of an emergency situation;
6. provision of equipment and devices used for protection against ionising radiation;
7. limitation of the production, trade or use of products or raw materials contaminated by radioactive materials;
8. safe-keeping, treatment, management, storage and final disposal of radioactive waste;
9. implementation of safety measures in relation to the release of radioactive materials into the environment;

10. education and advanced training of personnel in the field of protection against ionising radiation;
11. examination and permanent control of the health of personnel in the field of protection against ionising radiation;
12. individual measures and mutual protection of the public against ionising radiation;
13. control and provision of personnel, technical and financial requirements for the application of safety precautions against ionising radiation;
14. keeping records of ionising radiation sources and exposure of personnel working with ionising radiation sources, and exposure of patients and other members of the public to such radiation.

#### ***Article 10***

Systematic monitoring of ionising radiation, of the type and activity of radioactive materials in the air, the soil, the sea, rivers, lakes, underground water, heavy and liquid precipitation, drinking water, food-stuffs and objects for general use as well as in housing and in the workplace is mandatory.

Such systematic monitoring referred to in Paragraph 1 of this Article can be performed by legal entities which fulfil the conditions set out in Article 31 of the Act.

Provisions governing the conditions, manner, places and timing of the systematic monitoring of ionising radiation referred to in Paragraph 1 of this Article shall be adopted by the Minister of Health.

#### ***Article 11***

The occupational exposure of persons working with ionising radiation sources must not exceed 100 mSv over a period of five consecutive years, or an average of 20 mSv per year, on condition that exposure to radiation does not exceed 50 mSv in any one given year over the course of a five-year period.

Taking into consideration the upper limits of exposure to radiation, eye lenses must not be exposed to radiation higher than 150 mSv per year, while the skin, forearms, hands and feet must not be exposed to radiation higher than 500 mSv per year.

#### ***Article 12***

In exceptional circumstances and within defined time limits, the Minister of Health may approve exposure of employees mentioned in Article 11 of the Act to a higher level of ionising radiation, if special conditions are fulfilled, *i.e.* for the implementation of measures of intervention in an emergency situation.

An implementing regulation determining those special conditions referred to in Paragraph 1 of this Article shall be adopted by the Minister of Health.

### ***Article 13***

The limitation of exposure to radiation determined by the Act shall not apply to radiation exposure of patients for medical purposes.

Regulations governing the method and conditions of protection of patients from medically unjustified radiation, in diagnostic or therapeutic procedures using ionising radiation sources, shall be adopted by the Minister of Health.

### ***Article 14***

Radiation of persons who do not work with ionising radiation sources shall not exceed 1 mSv per year.

Taking into consideration the upper limit of exposure to radiation, eye lenses of persons not working with ionising radiation sources must not be exposed to radiation above 15 mSv per year, while the skin of such persons must not be exposed to radiation above 50 mSv per year.

### ***Article 15***

Persons working with ionising radiation sources must undergo special vocational training focusing on the application of safety precautions against ionising radiation either during their regular education or by attending a supplementary education programme organised by the Croatian Agency for Radiation Protection (hereinafter referred to as "CARP").

Provisions governing conditions and the manner in which the necessary vocational training should be made available for persons working with ionising radiation sources shall be adopted by the Minister of Health.

### ***Article 16***

Persons working with ionising radiation sources have to meet special health conditions.

All trainees, pupils and students, before starting their training in respect of work with ionising radiation sources, and all employees, before beginning to work with such sources, must undergo a preliminary health examination to determine whether they are physically fit to work with ionising radiation sources.

After the preliminary health examination, the physical health of employees working with ionising radiation sources shall compulsorily be checked up every 12 months as part of a regular health examination.

Should a person working with ionising radiation sources be exposed to radiation exceeding the limits determined by Article 11 of this Act or should a person between the ages of 16 and 18, undergoing training or education in respect of work with ionising radiation sources, be exposed to radiation exceeding the limits determined by Article 19 of this Act, or where a medical doctor, specialised in occupational medicine, deems necessary for any other health reason, that person shall be subject to a special health examination.



The health examination shall include: general medical examination with patient history, ophthalmological, gynaecological, dermatological and psychological examinations, haematological analysis, analysis of chromosome aberrations and urine analysis.

Implementing regulations to be adopted by the Minister of Health in accordance with the general principles of occupational medicine, scientific knowledge and the best global practices, shall establish health conditions and standards, the content, method and time limits for retaining data on health examinations of persons working with ionising radiation sources.

#### ***Article 17***

Control over the health of persons mentioned in Article 16 of the Act shall be exercised by the Croatian Institute for Occupational Medicine and health institutions having departments for occupational medicine, or by private practices authorised by the Minister of Health.

Expert monitoring of the work of doctors' surgeries specialised in occupational medicine and authorised to examine employees working with ionising radiation sources shall be performed by the health inspectorate of the Ministry of Health.

Should the procedure of expert monitoring, referred to in Paragraph 2 of this Article, aimed at establishing important facts or circumstances, require special expertise, the monitoring shall be performed by the Croatian Institute for Occupational Medicine.

#### ***Article 18***

Work with ionising radiation sources shall not be performed by:

1. persons under the age of 18;
2. pregnant women;
3. women during the period of breast-feeding, if working with unsealed ionising radiation sources.

In the event of an emergency situation, the above-mentioned persons shall not be involved in interventions.

#### ***Article 19***

Persons between the ages of 16 and 18, who are being trained or educated for work with ionising radiation sources, must not be exposed in the course of that training or education to radiation exceeding the following limits:

1. up to 6 mSv per year;
2. eye lenses: up to 50 mSv per year;
3. skin, forearms, hands and feet: up to 150 mSv per year.

### *Article 20*

Facilities, equipment and plants which contain ionising radiation sources or where activities related to such sources are performed, ionising radiation sources themselves, safety equipment and personal protection devices of persons working with such sources, must meet the requirements providing for protection of the public and the environment against ionising radiation and contamination from radioactive materials.

Provisions implementing the requirements referred to in Paragraph 1 of this Article shall be adopted by the Minister of Health:

1. for project engineering, construction and supply of the facilities, equipment and plants where ionising radiation sources are situated, produced or used;
2. for technical requirements which ionising radiation sources must meet for certain activities taking into account the type of the source, its features, intended use, place of use and dangers from ionising radiation caused by the activity;
3. to establish and maintain the quality assurance programme in accordance with the quality requirements determined for the activity using the ionising radiation source;
4. for safety and personal protection equipment which, by its number and quality, has to ensure that the exposure to radiation of employees and other persons be as low as is reasonably achievable, taking into consideration technical, economic, health and other conditions;
5. for other necessary technical and organisational measures contributing to the advancement of safety and protection against ionising radiation.

Provisions referred to in Paragraph 2, Items 1 and 2 of this Article shall be adopted by the Minister of Health, having taken into account the views of the Minister of Construction.

For the armed forces of the Republic of Croatia, the requirements referred to in Paragraph 1 of this Article are prescribed by the Minister of Defence, along with the prior consent of the Minister of Health.

### *Article 21*

Employees working with ionising radiation sources are required to implement all the usual prescribed measures of protection of themselves and others against ionising radiation, to use safety equipment and devices for measuring personal exposure to radiation and to take all the necessary safety precautions against ionising radiation.

### *Article 22*

The measurement of personal exposure to radiation of employees working with ionising radiation sources shall be implemented systematically by using film or thermoluminescent dosimeters within determined time periods, according to the methodology established by the Minister of Health in an

implementing regulation, and shall be implemented by legal entities which fulfil the requirements pursuant to Article 31 of the Act.

The results of measurements of personal exposure to radiation of employees working with ionising radiation sources shall compulsorily be reported to the CARP and the employer, who is required to inform the employee.

### *Article 23*

In order to be allowed to work with ionising radiation sources, legal entities or physical persons are required to obtain the consent of the Minister of Health.

The consent referred to in Paragraph 1 of this Article shall be obtained by legal entities and physical persons prior to the registration of the activity.

### *Article 24*

The licence to perform an activity involving ionising radiation sources is granted by the Minister of Health.

The licence referred to in Paragraph 1 of this Article is granted or refused through issue of a decision which is not subject to appeal. However, an administrative lawsuit may be filed against the decision.

For the armed forces of the Republic of Croatia, the licence referred to in Paragraph 1 of this Article is granted by the Minister of Defence with prior consent of the Minister of Health.

### *Article 25*

The requirements for issue of a licence to legal entities or physical persons to perform activities involving ionising radiation sources are the following:

1. consent of the Minister of Health;
2. a certificate of the court registry or a written certificate of any other corresponding registry which proves the legal status of a person;
3. registration of a legal entity or a physical person and of the ionising radiation source in the registry of the CARP, as well as the registration of the employees who will work with the ionising radiation sources;
4. facilities where ionising radiation sources are placed or used should comply with technical, safety and other conditions to ensure protection of the public and the environment against ionising radiation, and to ensure protection against contamination of the environment by radioactive materials, according to the previously-obtained opinion of an authorised legal entity;
5. ionising radiation sources, or devices or plants where ionising radiation sources are used for performing activities shall comply with the requirements determined by the Act and

implementing regulations adopted pursuant to this Act, according to the previously-obtained opinion of an authorised legal entity;

6. safety equipment and personal protection equipment shall, by its number and quantity, comply with the prescribed requirements, according to the previously-obtained opinion of an authorised legal entity;
7. employees must have an adequate educational background and fulfil the prescribed health conditions;
8. appointment of a person responsible for protection against ionising radiation;
9. measurement of employees' personal exposure to radiation should be implemented by an authorised legal entity;
10. a document on the application of safety precautions against ionising radiation, accompanied by a safety and quality protection programme with respect to ionising radiation sources and activities, the plan of measures for the prevention and elimination of the possible consequences of emergency situations and, also, the plan of measures for the disposal of radioactive waste generated in the course of activities with ionising radiation sources.

#### *Article 26*

A legal entity or physical person who holds a licence for performing activities with ionising radiation sources must designate a person responsible for protection against ionising radiation.

The person responsible for protection against ionising radiation must hold a degree of at least two years duration of a relevant occupationally-orientated education programme prescribed by the regulations of a legal entity or physical person who holds a licence to perform activities with ionising radiation sources.

In health, scientific, research and educational institutions, the person responsible for protection against ionising radiation is required to hold a university degree.

The person responsible for protection against ionising radiation shall:

- carry out the internal monitoring of the application of safety precautions against ionising radiation;
- supervise the use of the safety equipment and devices for measuring an employee's personal exposure to radiation;
- supervise security and the implementation of the health monitoring of the employees;
- ensure that the employees have professional qualifications for working with ionising radiation sources;
- ensure that the direct monitoring of ionising radiation sources is done within the prescribed time limits;

- initiate and organise safety precautions in the event of an emergency situation;
- participate in inspections and deliver an opinion on the report of the inspector;
- ensure the proper keeping of all records which a person who holds a licence for performing activities with ionising radiation sources is obliged to keep.

The person responsible for protection against ionising radiation is obliged, without delay, to inform the health inspector of the Ministry of Health about violations of provisions on radiation protection, especially if the employees' lives or health are being threatened.

Should the violation of provisions on protection against ionising radiation result in a threat to nature and the environment, the person responsible for ionising radiation protection shall, without delay, inform the inspector for the protection of nature or the inspector for environmental protection.

#### *Article 27*

A legal entity or physical person who holds a licence to perform activities with ionising radiation sources is obliged, with regard to persons exposed to ionising radiation at work, to ensure the measuring of employees' personal exposure to radiation pursuant to Article 22 of the Act, to equip them with personal protection equipment, to monitor the proper operation of that equipment, to ensure the testing of ionising radiation, to monitor the radioactive contamination of persons, objects, the environment, facilities, and the air in facilities where such activities are performed or where ionising radiation sources are kept, and to control the proper operation of safety equipment and devices for measuring employees' exposure to radiation.

The method and the time limits of implementation of direct monitoring of ionising radiation sources, the method of measuring employees' personal exposure and the exposure of patients to ionising radiation, obligatory contents of the report on monitoring and measurements, method and time limits with regard to the maintaining of the necessary records as well as the procedure of reporting the data to the competent bodies shall be prescribed by the Minister of Health.

#### *Article 28*

A legal entity or physical person holding a licence to perform activities involving ionising radiation shall be responsible for and shall bear all expenses resulting from the application of safety precautions against ionising radiation.

#### *Article 29*

A legal entity or physical person holding a licence to perform activities involving ionising radiation sources, and whose activity leads to radioactive contamination of the environment, the facilities, the area, objects or persons with radioactive materials exceeding the limits provided for in Article 12 of the Act or the limits otherwise established in accordance with this Act, shall be liable for the damage caused and is obliged to ensure, without delay, the removal of such radioactive contamination, *i.e.* to take all measures which are absolutely necessary in order to reduce the damage to the public and the environment or to remove any further risks, dangers or damages.

A legal entity or physical person referred to in Paragraph 1 of this Article shall, without delay, inform the Ministry of Health and the CARP about any risks or dangers resulting from radioactive contamination caused by its activity.

If a legal entity or physical person holding a licence to perform activities involving ionising radiation sources does not take all measures which are absolutely necessary as referred to in Item 1 of this Article, the public health inspector shall order the implementation of measures to reduce damage to the public and the environment at the expense of the above-mentioned person.

### *Article 30*

The following shall be considered expert activities for protection against ionising radiation:

1. examination of the activity of radioactive materials in the air, the soil, the sea, rivers, lakes, underground water, drinking water, heavy and liquid precipitation, foodstuffs and objects for public use;
2. measuring the degree of exposure to ionising radiation of personnel working with ionising radiation sources, patients exposed to ionising radiation during diagnostic procedures or medical treatment, other members of the public and the environment;
3. delivering an opinion in the procedure of determining whether the requirements have been fulfilled in respect of an activity related to ionising radiation sources;
4. periodical examination of ionising radiation sources within the prescribed periods of time and the assessment of their effects on personnel, the public and the environment;
5. measuring the level of radiation and the degree of radioactive contamination in facilities where radioactive materials are used, which may be released into the environment;
6. disposal of radioactive waste;
7. control of the proper operation of equipment for the measurement of ionising radiation and for personal protection.

### *Article 31*

Expert activities for protection against ionising radiation referred to in Article 30 of the Act can be performed by legal entities licensed by the Minister of Health, following consultation of the CARP.

The authorisation referred to in Paragraph 1 of this Article is granted by the Minister of Health to those legal entities which fulfil the prescribed requirements in relation to personnel, facilities and equipment.

Provisions establishing the requirements referred to in Paragraph 2 of this Article shall be adopted by the Minister of Health.

The list of legal entities which are allowed to perform expert activities of protection against ionising radiation provided for in Article 30 of the Act is published in the Official Gazette.

### ***Article 32***

Ionising radiation sources and activities involving such sources are not considered to be harmful to public health if they fulfil the following requirements:

1. the total level of radiation per hour at the distance of 0.1 m from any place on the surface of the ionising radiation source shall not, under any working conditions, exceed the limit of 1 microSievert;
2. the most energy from ionising radiation produced by an electrical device at any moment during its use shall not exceed the values determined by the implementing regulation referred to in Paragraph 2 of this Article;
3. the highest activity or concentration of activity of radioactive materials contained by an ionising radiation source at any moment during its use shall not exceed the values determined by the implementing regulation referred to in Paragraph 2 of this Article.

The requirements described under Items 1, 2 and 3 of Paragraph 1 of this Article shall be prescribed by the Minister of Health.

The activities involving ionising radiation sources referred to in Paragraph 1 of this Article are exempt from monitoring and are not subject to the provisions of Articles 23-25 of the Act.

Upon completion of the utilisation of ionising radiation sources referred to in Paragraph 1 of the Act, the user shall provide for their disposal in keeping with the requirements prescribed in Article 35 of the Act.

### ***Article 33***

The transportation of radioactive materials may be carried out by legal entities and physical persons authorised by the Minister of Health, upon fulfilment of the requirements set out in Article 25 of this Act and in the Act on Transportation of Hazardous Materials.

## **IV. EMERGENCY SITUATIONS**

### ***Article 34***

In accordance with the international legal provisions and recommendations, and in accordance with the previously-obtained opinions of the Minister of Economy, Minister of Defence, Minister of the Interior, Minister of Science and Technology, Minister of Agriculture and Forestry, Director of the State Administration for the Protection of Nature and the Environment and Director of the State Administration for Water Management, the Minister of Health proposes and the Government of the Republic of Croatia adopts a national plan and programme of safety precaution measures against ionising radiation in the case of an emergency situation.

The plan and the programme referred to in Paragraph 1 of this Article, based on intervention levels and deduced intervention levels referred to in Article 12 of the Act, shall establish measures to protect lives and health of the public, the environment, domestic animals and agriculture, set out methods for

the implementation of such measures, determine which bodies are competent to implement these measures, establish the procedure for informing the public and the method and frequency of periodical verification of the efficiency of parts of the plan or the plan as a whole.

## V. RADIOACTIVE WASTE

### *Article 35*

The Minister of Health shall establish requirements and the method of treatment and disposal of radioactive waste produced by the activities of legal entities or physical persons holding a licence to perform activities involving ionising radiation, and also other legal entities or physical persons in accordance with international legal provisions and recommendations.

### *Article 36*

All import, processing, storage and disposal of radioactive waste originating from outside the Republic of Croatia shall be prohibited.

## VI. CROATIAN AGENCY FOR RADIATION PROTECTION (CARP)

### *Article 37*

The Croatian Agency for Protection Against Radiation, as an institution in the field of health protection performing expert activities related to radiation protection, shall be obliged to submit to the Minister of Health a yearly written report on the application of safety precaution measures against ionising radiation within his competence deriving from the Act on Health Protection and the competence determined by this Act.

### *Article 38*

Besides the competencies deriving from the Act on Health Protection, the CARP performs the following tasks:

1. formulates standards and methods of monitoring the conditions of ionising radiation protection;
2. supports scientific, expert, statistical and other research work, examines and estimates the overall impact of ionising radiation;
3. encourages the establishment of commissions and working bodies in order to develop expert opinions and the assessment of the situation in the field of radiation protection;
4. provides expert advice as to the curricula and plans for the regular and additional training of personnel working with ionising radiation sources;



5. submits its opinions to the Minister of Health regarding legal entities applying for a licence to perform specific tasks of radiation protection and monitors their work;
6. issues opinions and recommendations to the Minister of Health, which are necessary in the procedure of issuing licences to perform activities involving ionising radiation sources;
7. co-operates with international and national organisations and institutions dealing with radiation protection and follows the international regulations, recommendations and agreements in this field;
8. also performs other tasks assigned to it.

#### *Article 39*

The CARP and the Croatian Institute for Occupational Medicine jointly develop policy regarding the monitoring of the effects of ionising radiation on the health conditions of personnel working with ionising radiation sources.

### VII. COMMISSION FOR RADIATION PROTECTION

#### *Article 40*

In order to be able to assess the conditions of ionising radiation protection in Croatia, to take a stand and propose measures under ordinary circumstances and in emergency situations, the Government of the Republic of Croatia shall nominate members for the Commission for Radiation Protection (hereinafter referred to as “the Commission”).

#### *Article 41*

The Commission shall be composed of nine members, as follows:

1. Minister of Health;
2. Assistant to the Minister of Science and Technology who is responsible for technology;
3. Assistant to the Minister of Economy who is responsible for energy;
4. Assistant to the Minister of the Interior who is responsible for civil defence;
5. Director of the State Administration for the Protection of Nature and the Environment;
6. Director of the State Agency for Standardisation and Measurements;
7. Director of the CARP;
8. One member proposed by the Minister of Defence;

9. One distinguished expert in the field of radiation protection proposed by the Minister of Health.

The Chairman of the Commission shall be the Minister of Health.

The Commission shall adopt its rules of procedure.

#### *Article 42*

The Commission shall deliver its proposals and opinions to the Government of the Republic of Croatia concerning radiation protection and the monitoring of the implementation of proposed measures.

The Commission shall report to the Government of the Republic of Croatia, as circumstances require, at least once a year, on the following issues:

- the state of the ionising radiation protection situation, the application of safety precautions and the assessment of the radiation exposure of critical groups of the public as well as the public as a whole in the Republic of Croatia;
- the development strategy and organisation of radiation protection in the Republic of Croatia;
- legislative proposals for the regulation of radiation protection;
- international co-operation in the field of radiation protection, especially concerning accession to the international agreements in the field;
- other issues concerning radiation protection in the Republic of Croatia.

### VIII. CONTROL

#### *Article 43*

The administrative control over the implementation of provisions of this Act and regulations enacted pursuant to this Act shall be exercised by the Ministry of Health.

Inspections under the provisions of this Act and its implementing regulations shall be carried out by the health inspectorate of the Ministry of Health.

Within the armed forces of the Republic of Croatia, inspections relating to the implementation of this Act and its implementing regulations shall be carried out by the health inspectorate of the armed forces of the Republic of Croatia with the co-operation of the health inspectorate of the Ministry of Health.

#### ***Article 44***

Should it be established, in the course of inspection or supervision or based on a report of the CARP, the Croatian Institute for Occupational Medicine or the authorised legal entities, that this Act or one of its implementing regulations is being breached, the state health inspector shall:

1. temporarily or permanently prohibit the use, trade or transportation of ionising radiation sources and the performance of other activities related to ionising radiation sources;
2. prohibit work by personnel who do not fulfil the health conditions required for work with ionising radiation sources;
3. prohibit work with ionising radiation sources for personnel who do not have the required qualifications, and instruct them to undergo additional training;
4. prohibit the treatment of radioactive waste, if it does not comply with the regulations.

In the cases stated in Items 1 and 4 of Paragraph 1 of this Article, the health inspector of the Ministry of Health shall adopt a decision on how to proceed with and dispose of the ionising radiation sources at the expense of the licensee.

### **IX. PENALTY CLAUSES**

#### ***Article 45***

A legal entity or physical person who, in order to acquire material benefits, imports, processes, stores or disposes of radioactive waste on the territory of the Republic of Croatia shall be liable to the payment of a fine of an amount from Croatian kuna (HRK) 900 000 to 1 000 000, in respect of radioactive waste not originating in the Republic of Croatia (Article 36).

The person responsible within the legal entity shall also be liable for the offences listed in Paragraph 1 of this Article and shall be fined from HRK 50 000 to 200 000.

#### ***Article 46***

A legal entity or physical person shall be liable to pay a fine from HRK 100 000 to 500 000 for the following offences:

1. if performing activities with ionising radiation sources without a licence (Article 24);
2. if its activity causes the contamination of the environment, the facilities and persons with radioactive materials and it does not provide for the removal of radioactive contamination (Article 29, Paragraph 1);
3. if it disposes of radioactive waste contrary to the prescribed conditions (Article 35);
4. if it does not observe the decision of the public health inspector which orders the implementation of a certain action or a measure (Article 44).

The person responsible within the legal entity shall be liable to pay a fine from HRK 50 000 to 100 000 for the offences listed in Paragraph 1 of this Article.

#### *Article 47*

A legal entity or physical person shall be liable to pay a fine from HRK 20 000 to 100 000 for the following offences:

1. if it carries out medical applications of ionising radiation sources in breach of the conditions prescribed by the Minister of Health (Article 13, Paragraph 2);
2. if, for work involving ionising radiation sources, it hires a person who does not have the prescribed qualifications or if it fails to instruct such a person to undergo additional training (Article 15);
3. if, for work involving ionising radiation, it hires a person without prior medical examination or a person who does not fulfil the prescribed health conditions required for work with ionising radiation sources, or if it fails to send such persons who are exposed to radiation at work to a regular medical examination within the prescribed time period (Article 16);
4. if, for work involving ionising radiation, it hires persons under the age of 18, pregnant women or breast-feeding women to work with unsealed ionising radiation sources (Article 18);
5. if, during training for work with ionising radiation sources, it exposes a person under the age of 18 to radiation in breach of the conditions prescribed by the Act (Article 19);
6. if it uses ionising radiation sources in breach of the conditions prescribed by the Minister of Health (Article 20);
7. if it fails to designate a person responsible for radiation protection who has the required qualification (Article 26);
8. if it does not provide its personnel with the relevant safety equipment and means and devices for measuring personal radiation, and if it does not implement all other safety precautions against ionising radiation designed to reduce the radiation to the lowest possible level, and in any event below the prescribed level, if it does not ensure the examination of ionising radiation sources within the prescribed time limits and if it does not do it in the prescribed manner and if it does not maintain proper records on these examinations (Article 27).

For offences listed in Paragraph 1 of this Article the person responsible within the legal entity shall be considered liable to pay a fine ranging from HRK 5 000 to 30 000.

#### ***Article 48***

An authorised legal entity referred to in Article 31 of the Act shall be liable to pay a fine from HRK 5 000 to 20 000 for the offence of not keeping records or failing to submit reports and data in the manner determined by the Act and its implementing regulations (Article 27, Paragraph 2).

For the offences listed under Paragraph 1 of this Article, the person responsible within the legal entity shall also be liable to a fine from HRK 2 500 to 10 000.

#### ***Article 49***

The health inspector of the Ministry of Health responsible for the supervision of personnel working with ionising radiation sources shall be liable to pay a fine of HRK 10 000 for the following offences: if a person works without having taken a medical examination (Article 16), if (s)he does not use the available safety equipment during the work or if (s)he does not carry the device for measuring the personal radiation (Article 21).

### **X. TRANSITIONAL AND FINAL PROVISIONS**

#### ***Article 50***

The implementing regulations which are foreseen under the Act shall be adopted by the Minister of Health within a period of six months from its entry into force.

Pursuant to Paragraph 1 of this Article, the Minister of Health is authorised to establish offences and fines for those offences.

Upon proposal of the Minister of Health, the Government of the Republic of Croatia shall adopt a national plan and programme of safety precautions in the case of an emergency situation within a period of one year from the entry into force of this Act.

#### ***Article 51***

As from the date of the entry into force of this Act, the provisions of the Act on Safety Precautions Against Ionising Radiation and the Safety of Nuclear Facilities and Plants (Official Gazette, No. 18/81) shall no longer be in force except for the provisions of Article 2, Paragraph 1 of Article 3, Paragraphs 4, 6 and 7 of Article 4, Article 6, Paragraph 2 of Article 7, Articles 21-30, Paragraph 2 of Article 31 and Article 32 to the extent that it refers to nuclear safety and the provisions of the Act on Protection Against Ionising Radiation and on the Safe Use of Nuclear Energy\*\* (Official Gazette, No 53/91, 26/93 and 29/94) except for the provisions of Article 5, Paragraph 2 of Article 6, Articles 28-59 and Article 66 to the extent that it refers to nuclear safety.

Until the entry into force of the regulations to be adopted pursuant to Article 50 of this Act, the regulations enacted pursuant to the Act referred to in Paragraph 1 of this Article shall remain in effect, to the extent that such provisions are not contrary to this Act.

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\*\* The text of this Act was reproduced in the Supplement to *Nuclear Law Bulletin* No. 36 (December 1985).

### *Article 52*

Legal entities authorised to carry out the expert work of protection against ionising radiation referred to in Article 30 of this Act shall continue their work on condition that, within three months from the entry into force of the regulation provided for under Article 31, Paragraph 3 of this Act, they co-ordinate their activities and their business operations with the provisions of the Act.

The legal entities referred to in Paragraph 1 of this Article which do not co-ordinate their activities and business operations by the expiry of the deadline stated in Paragraph 1 of this Article shall no longer be authorised to carry out expert activities of protection against ionising radiation as stated in Article 30 of this Act; a decision to this effect shall be issued by the Minister of Health.

### *Article 53*

The five-year period referred to in Article 11, Paragraph 1 of this Act shall commence as of 1 January 2000.

### *Article 54*

This Act shall come into force on the eighth day after the day of its publication in the Official Gazette and it shall start to be implemented upon expiry of a six-month period from the day of its entry into force.

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