MULTILATERAL AGREEMENTS

Observations on the First Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*

1. Introduction

For more than twenty years, radioactive waste has been seen as a global problem because of the difficulties in finding an acceptable means for its disposal. This has had implications for the development of the nuclear electricity industry since many have taken the view that no further nuclear power plants should be constructed until the problem has been solved. The issue is broader, however, since radioactive waste disposal is also a matter of concern for countries without nuclear energy, notably in relation to the "sealed radioactive sources" used in research and medicine. In fact, technical solutions exist, are being applied for many types of radioactive waste and are at an advanced stage of development for the remainder. Nevertheless, there continues to be a common perception that radioactive waste is an unresolved issue and a potential threat to human health and the environment.

It was against this background that the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention) came into being. The Convention was adopted at a Diplomatic Conference in Vienna in September 1997 and came into force in June 2001 when the required number of countries had ratified the Convention (25 countries, 15 with operational nuclear power plants). The text of the Convention is contained in IAEA INFCIRC/546[1] and it was the subject of an earlier article in this *Bulletin.*[2]

The First Review Meeting of the Parties to the Convention was held from 3 to 14 November 2003 in Vienna. The outcome of the Review Meeting is contained in a publicly available Summary Report.[3]

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* This article was kindly provided by Mr. Gordon Linsley, former Head of the Waste Safety Section of the International Atomic Energy Agency who led the Technical Secretariat at the First Review Meeting of the Joint Convention. This article is based on the Summary Report of the Contracting Parties but, in addition, under the headings "Observations", expresses the author's own views of the Meeting. The author is grateful for constructive criticism of the draft paper by George Jack of Canada.

1. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, International Atomic Energy Agency, INFCIRC/546, 24 December 1997.

2. Wolfram Tonhauser and Odette Jankowitsch, "The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management", *Nuclear Law Bulletin* No. 60, p. 9, December 1997.

3. Summary Report of the First Review Meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, JC/RM.1/06/Final Version: www-rasanet.iaea.org/downloads/conventions/jointcon_summary_report_finalNov19.pdf

2. Purpose and contents of the Joint Convention

As stated in Article 1 of the Convention, one of its main objectives is “to achieve and maintain a high level of safety worldwide in spent fuel and radioactive waste management, through the enhancement of national measures and international co-operation, including where appropriate, safety related technical co-operation”. The mechanism for achieving this goal will be described later in this article.

The scope of application of the Convention (Article 3) includes spent nuclear fuel and almost all types of radioactive waste, for example, it includes:

- nuclear fuel that has been used in nuclear power plants (spent nuclear fuel);
- waste from the operation of nuclear power plants;
- waste from the mining and processing of uranium;
- waste from the use of isotopes in medicine and industry, e.g. sealed sources whose useful life is over; and
- discharges of radioactive materials to the environment.

In addition, other types of spent fuel and waste can be included within the scope, if Contracting Parties wish to declare them, for example:

- spent fuel undergoing reprocessing to recover unused uranium or plutonium;
- waste from the manufacture of abrasives or other products using naturally occurring radioactive sands;
- waste from mining ores that incidentally contain radioactive materials; and
- waste from military applications of nuclear energy.

From this it can be observed that the Convention is relevant to almost all countries and not only to those countries with nuclear power plants.

3. The Review Mechanism

Article 30 of the Convention requires Contracting Parties to hold meetings, at intervals not exceeding three years, for the purpose of reviewing the National Reports submitted as required in Article 32.

The review process consists of:

- the preparation by Contracting Parties of National Reports in which “the measures taken to implement each of the obligations of the Convention” are addressed. In addition, the following aspects are to be addressed: spent fuel policy, spent fuel management practices, radioactive waste management policy, radioactive waste management practices, and the criteria used to define and categorise radioactive waste. Finally, the following information is to be provided: lists of spent fuel and radioactive waste facilities subject to the Convention, national inventories of spent fuel and radioactive waste and a list and the status of nuclear facilities undergoing decommissioning;

- the review of each National Report by other Contracting Parties in advance of the Review Meeting and, as appropriate, the questioning (in writing to the Contracting Party concerned) of matters contained in its National Report;
- the provision of answers by the Contracting Party to the questions of the other Contracting Parties in advance of the Review Meeting;
- the presentation and discussion of each National Report within a "Country Group" at the Review Meeting. At the First Review Meeting, Contracting Parties were allocated to five Country Groups by a prescribed mechanism. The Country Group arrangement was used because of the impracticability, in terms of time, of having all Contracting Parties present for each National Report presentation and discussion;
- the presentation of a summary of each of the five Country Group discussions to the Plenary of Contracting Parties by the relevant Country Group Rapporteur followed by a discussion of the findings.

In summary, the Joint Convention review process can be seen as:

- a self-assessment of national arrangements for radioactive waste management by each Contracting Party;
- an international peer review of those arrangements;
- an opportunity to benefit from the experience of other Contracting Parties; and
- a mechanism for promoting improvement through the feedback obtained from the ideas and comments of other Contracting Parties.

4. Details of the First Review Meeting

Thirty-two Contracting Parties participated in the Review Meeting, namely: Argentina, Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Republic of Korea, Latvia, Luxembourg, Morocco, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, and United States of America. In addition, Japan, a late ratifier, was allowed to participate fully as if it were a Contracting Party. The Nuclear Energy Agency of the OECD was present as an observer.

The meeting was conducted in accordance with the Joint Convention "Rules of Procedure and Financial Rules" [IAEA INFCIRC/602][4] and the "Guidelines Regarding the Review Process" [IAEA

4. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Rules of Procedure and Financial Rules, International Atomic Energy Agency, INFCIRC/602, 1 July 2002: www.iaea.org/Publications/Documents/Infcircs/2002/infcirc602.pdf.

INFCIRC/603].[5] The National Reports were prepared in accordance with the "Guidelines Regarding the Form and Structure of National Reports" [IAEA INFCIRC/604].[6]

5. Outcomes of the First Review Meeting

5.1 General

In their Summary Report, the Contracting Parties concluded that the Review Meeting process had already contributed significantly to achieving the objectives of the Convention and noted that several Contracting Parties had made improvements in their management of spent fuel and radioactive waste in the two or so years leading up to the Review Meeting, prompted by the forthcoming meeting. Several countries acknowledged the value and benefit of the "self-assessment" and "the international peer review" processes while, at the same time, commenting that they are time consuming and expensive. It was widely acknowledged that further improvements can be made to improve the safety of spent fuel and radioactive waste management in their countries and that they expected to make progress in the next years and to report on it at the next review meeting.

The National Reports, most of which are publicly available, constitute the most up-to-date and comprehensive record of the global status of radioactive waste management.

5.2 Specific technical issues

Long-term policies

The Review Meeting revealed that there is a wide variety in the long term radioactive waste and spent fuel management policies being practised and considered. Many countries favour geological disposal as a long term strategy but some intend to directly dispose of spent fuel while others intend to recover uranium and plutonium and dispose of only the residual fission products. At present, however, this spent fuel and waste are being stored while waiting for geological repositories to be developed. While some countries have overall national strategies in place for the management of this type of waste, most are still considering what approaches to follow and a few are still at the early stages of policy development. Some countries prefer to keep their management options open for the time being while others are engaged in public consultation on waste management strategies. The discussions also revealed that there is interest in possible bilateral and regional solutions to the disposal of spent fuel and high-level waste.

5. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Guidelines Regarding the Review Process, International Atomic Energy Agency, INFCIRC/603, 1 July 2002: www.iaea.org/Publications/Documents/Infcircs/2002/infcirc603.pdf.

6. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Guidelines regarding the Form and Structure of National Reports, International Atomic Energy Agency, INFCIRC/604, 1 July 2002: www.iaea.org/Publications/Documents/Infcircs/2002/infcirc604.pdf

Clearance policies

The discussions revealed a variety of approaches to the management of very low-level radioactive waste. In some countries clear criteria have been established which distinguish between radioactive waste and waste which can be freely recycled or disposed of with normal non-toxic waste. In other countries problems have been encountered in establishing such policies. It was agreed that it would be beneficial to have international guidance on suitable clearance criteria that could be used at the national level and also to facilitate international trade.

Decommissioning

The increased importance of decommissioning operations was recognised at the meeting. It was agreed that Contracting Parties need to make proper funding provisions for decommissioning and to develop integrated decommissioning and radioactive waste management plans in order to avoid leaving unwanted residues for future generations to manage.

Regulatory independence

Various regulatory regimes exist within the Contracting Parties and the problems of overlapping regulatory jurisdictions and of regulatory independence were discussed. Concern was expressed over the situation in a few of the Contracting Parties where organisations exist with multiple functions and where regulatory functions in relation to radioactive waste management may not be sufficiently independent of other functions of the organisations.

Public participation

From the reports of the Contracting Parties it is obvious that, increasingly, the public is being consulted in regard to decisions in the radioactive waste management area. The old approach of “decide, announce and defend” is no longer tenable.

Good practices

In the course of the discussions certain “good practices” were identified which, in the view of the meeting, could further the objectives of the Convention; some examples are: involving the public in decision making, establishing sound financial arrangements for decommissioning and waste disposal, returning disused sealed sources to the manufacturer, establishing regulatory frameworks that take into account chemical as well as radiological hazards.

International standards

The meeting identified the need for new or improved international safety standards in certain areas, namely, for the clearance of materials containing very low levels of radionuclides, for the design, operation and regulation of storage facilities, for the safety assessment of radioactive waste facilities and for the management of “mixed” waste, i.e., waste containing radioactive and other hazardous materials.

6. Observations on the review process at the First Review Meeting

Quality of Country Group discussions

As noted in the Summary Report, these sessions were very variable in quality and activity. In some sessions, the exchanges were open and frank and resulted in useful and constructive conclusions being drawn regarding the waste safety situation in the country concerned. In others, Contracting Parties were defensive in their approach – seemingly wishing to emerge without being criticised – leading to a rather superficial discussion on some National Reports. Concern over the attitude of some participants led to an observation during the Plenary Session discussions that each Country Group member has a responsibility to undertake a serious review of all the National Reports of his/her Country Group. Of course, it must be noted that an exchange had already taken place by means of the written questions and answers prior to the Review Meeting and this factor may have contributed to the indifferent level of discussion in some sessions. The role of the officers of the Country Groups (chairman, vice-chairman, rapporteur, co-ordinator) in stimulating and promoting discussion is obviously important and the Contracting Parties at the Review Meeting instituted work within the Secretariat to improve the guidance on the respective roles of these officers for future review meetings. Nevertheless, it is difficult to avoid the conclusion that, if there is to be significant improvement in the future, much will depend upon the participants bringing a more open and constructive attitude to the meeting.

Countries with different interests

It was apparent that the focus of interest of the nuclear power countries is different from that of the non-nuclear power countries, the former being mainly concerned with the management of spent fuel and the waste from nuclear power generation and the latter with the management of disused sealed sources and the waste arising from the use of unsealed sources in diagnostic and therapeutic medicine, and, in some cases, mining and milling waste. This means that, although the management of disused sealed sources is an issue for all countries, it is of lesser concern to the nuclear power countries and was given comparatively little attention in their National Reports and in the discussions at the Review Meeting. In the context of transboundary movement of materials [Article 27], the nuclear power countries will usually be in the role of suppliers of sources (states of origin) while the non-nuclear power countries will usually be the recipient countries (states of destination). This division of interest may be expected to become more marked as more developing countries become party to the Convention and it raises the question as to whether the existing review process is entirely satisfactory and whether some means of addressing specific issues of interest to particular groups of countries should be introduced.

National and international aspects

Radioactive waste management is principally a national concern; the solid waste is normally processed, stored and disposed of in the country where it is generated. This is indicated in pre-ambular paragraph (xi) of the Convention although it is also recognised that, in certain circumstances, there may be waste management agreements among Contracting Parties. Most attention in National Reports and in the discussions of Country Groups at the Review Meeting was therefore focussed on the situations within individual countries. Nevertheless, there are international or transboundary aspects of radioactive waste management to consider. Some of these are listed below:

- the control of radioactive discharges to the environment;

- the regulation of transboundary movement of radioactive materials, e.g, spent fuel and sealed sources;
- the regulation of the transboundary movement of very low-level radioactive material (international clearance policies);
- rules for establishing regional repositories.

It seems clear that, in future, there will be issues relating to some or all of these subjects to consider in the context of the Convention. Under the existing arrangements, "ad-hoc" discussions could be held during the Plenary Sessions of a Review Meeting, but in view of the potentially important role of the Convention in relation to international aspects, consideration should be given to providing for special sessions within the Review Meeting to allow for structured discussion of such issues.

7. Organisational aspects

Number of Contracting Parties

The Summary Report expresses the concern of existing Contracting Parties at the comparatively low level of ratification at present (34 Contracting Parties) and identifies a number of initiatives, mainly for the Secretariat, to improve the situation. The main concern is that a global convention of this type cannot become really effective unless it has a broadly based global membership. At present it is dominated by the countries with nuclear power plants.

Changes in organisational arrangements

An Open-ended Group was established during the meeting and it discussed, *inter alia*, possible changes to the Rules of Procedure and Financial Rules [INFCIRC/602] and to the Guidelines Regarding the Review Process [INFCIRC/603] in order to:

- relax admission to Country Groups (which at present is limited to those Contracting Parties that are members of that Country Group and to Contracting Parties that have posed written questions to members of the Country Group);
- relax rules on questions in Country Groups;
- simplify the balloting procedure;
- modify arrangements for appointing the officers of the Review Meeting;
- clarify procedures for late ratifiers of the Convention; and
- establish arrangements for "Topic Sessions" in the review process.

The changes proposed by the Open-ended Group were subsequently agreed by a Plenary Session of the Review Meeting.

Continuity of Joint Convention activities

A number of additional initiatives were discussed during the Review Meeting aimed at improving the effectiveness of the review process. In order to carry these initiatives forward and to

facilitate their introduction at the earliest possible time, it was decided that the General Committee of the Review Meeting (president, vice-presidents and chairs of Country Groups) would continue in existence until the next Organisational Meeting. It would review any drafts produced by the Secretariat in this context.

Transparency

The discussions at the Review Meeting indicated a desire on the part of many of the Contracting Parties to improve the transparency of the review process. In this context, most Contracting Parties (27 out of 34) voluntarily placed their National Reports on their own websites and, subsequently, they were placed on the Joint Convention website.[7]

Electronic submissions

For the First Review Meeting the official mechanism for distributing National Reports was by means of printed paper. The meeting was in favour of a move towards electronic submissions for National Reports and the Secretariat was asked to facilitate this transition as soon as possible. For the next review meeting, however, both methods will be allowed.

8. Observations on the organisational arrangements

Knowledge retention

In the interests of encouraging an open and frank exchange between Contracting Parties, the records of the Review Meetings are limited to the publicly available Summary Report and the President's Report (available to participants of the meeting). Formally, no records are retained of the discussions within the Country Groups, of the rapporteur's session summaries or of the rapporteur's presentation to the Plenary Session of the Review Meeting.

This approach is in conflict with the desire of Contracting Parties for transparency and, in addition, it is not consistent with a review process that seeks to achieve progressive improvement by each Contracting Party. It is clear that this aspect needs further consideration by the Contracting Parties. As a minimum, information should be retained between review meetings to allow the review of any changes that have taken place in the countries of the Country Groups.

Observers

Attendance at meetings of the Joint Convention is limited to Contracting Parties and to observers invited by a consensus of Contracting Parties [Article 33]. The observer status may be afforded to intergovernmental organisations competent in respect of matters governed by the Convention. (At the First Review Meeting the Nuclear Energy Agency of the OECD was invited to attend as an observer.) This limitation on attendance was established in order to encourage open exchange between Contracting Parties. It can be contrasted with the more liberal approach to observers

7. www-rasanet.iaea.org/conventions/waste-jointconvention.htm

in many other international conventions and might be seen as being in conflict with the desire of Contracting Parties for increased openness and transparency.

9. Conclusions

The First Review Meeting of the Joint Convention resulted in the assembly of the most comprehensive information yet available on the status of spent fuel and radioactive waste management in the world. The review process has prompted improvements in the safety of radioactive waste management in some states and the promise of improvements in others. The discussions in the two-week meeting addressed all of the important issues confronting countries in managing spent fuel and radioactive waste safely. It revealed areas for improvement at both the national and international levels.

The meeting showed the strengths and weaknesses of the Joint Convention review process, which had been inherited from the Convention on Nuclear Safety, and produced a number of ideas for its improvement and refinement.

The Joint Convention review process is designed principally for the review of the National Reports of Contracting Parties. However, there are also global issues in the area of spent fuel and radioactive waste management and issues of special interest to groups of countries to consider. The future development of the Convention may therefore have to include suitable additional mechanisms to allow these aspects to be addressed.

The Joint Convention has the potential to be a powerful mechanism for improving the safety of spent fuel and radioactive waste management in the world, but for the potential to be fully realized, a more globally representative membership of the Convention is required and an open and constructive approach from the Contracting Parties.

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Protocol Amending the European Convention on the Suppression of Terrorism (2003)

This Protocol amending the European Convention on the Suppression of Terrorism of 27 January 1977 was adopted by the Council of Europe on 15 May 2003. The 1977 Convention is designed to facilitate the extradition of persons having committed acts of terrorism. To this end, it lists the offences that Parties undertake not to consider as political offences, or as offences connected with political offences, or as offences inspired by political motives. The objectives of the amending protocol are to strengthen the fight against terrorism whilst protecting human rights. Its Article 1 extends the list of offences that Parties undertake not to consider as political offences to any offence within the scope of the Convention on the Physical Protection of Nuclear Material, adopted at Vienna on 3 March 1980. The texts of the European Convention on the Suppression of Terrorism and of its amending Protocol are available at the following URL:
http://conventions.coe.int/Treaty/Commun/ListeTraites.asp?CM=8&CL=ENG

Status of Conventions in the Field of Nuclear Energy

1979 Convention on the Physical Protection of Nuclear Materials

Since the last update in *Nuclear Law Bulletin* No. 73, two states, namely Cameroon and the Democratic Republic of the Congo have become Contracting Parties to this Convention (accession). Therefore, as of 12 November 2004, there are 106 Contracting Parties to this Convention.

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

Since the last update in *Nuclear Law Bulletin* No. 73, Chile has become a Contracting Party to this Convention (accession). Therefore, as of 12 November 2004, there are 90 Contracting Parties to this Convention.

1996 Comprehensive Test Ben Treaty

Since the last update in *Nuclear Law Bulletin* No. 73, seven states, namely the Democratic Republic of the Congo, Liechstenstein, Serbia and Montenegro, Sudan, Tanzania, Togo and Tunisia have become Contracting Parties to this Treaty (accession). Therefore, as of 12 November 2004, there are 119 Contracting Parties to this Treaty.

1996 Protocol amending the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Since the last update in *Nuclear Law Bulletin* No. 73, two states, namely France and Egypt, have become Contracting Parties to this Protocol (accession). Therefore, as of 12 November 2004, there are 20 Contracting Parties to this Protocol.