

Open-ended Meeting of Legal and Technical Experts on Implementation of the Code of Conduct on the Safety and Security of Radioactive Sources

Vienna, 27-29 June 2017

Report of the Chairman

1. An open-ended meeting of legal and technical experts on implementation of the Code of Conduct on the Safety and Security of Radioactive Sources (the Code), was held from 27 to 29 June 2017 at the International Atomic Energy Agency (IAEA) Headquarters in Vienna under the chairmanship of Mr L. Chamney (Canada).

2. The meeting was attended by 180 experts from 101 Member States of the IAEA (Afghanistan, Albania, Algeria, Argentina, Armenia, Australia, Azerbaijan, Bahrain, Bangladesh, Barbados, Belarus, Benin, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Congo, Côte d'Ivoire, Cuba, Cyprus, Czech Republic, D.R. Congo, Djibouti, Dominican Republic, Ecuador, Egypt, Ethiopia, Finland, France, Georgia, Germany, Ghana, India, Indonesia, Iraq, Islamic Republic of Iran, Italy, Japan, Jordan, Kazakhstan, Kenya, Korea Republic, Lao P.D.R., Latvia, Lesotho, Lithuania, Madagascar, Malawi, Malaysia, Mauritania, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Nigeria, Pakistan, Panama, Paraguay, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, Senegal, Serbia, Seychelles, Sierra Leone, Slovakia, Spain, Sri Lanka, Sudan, Swaziland, Sweden, T.F.Y.R. Macedonia, Tajikistan, Thailand, Tunisia, Turkey, United Kingdom, Ukraine, United Arab Emirates, United Republic of Tanzania, Uruguay, USA, Viet Nam, Yemen, Zambia, Zimbabwe). The meeting was also attended by observers from the International Source Suppliers and Producers Association (ISSPA), the International Irradiation Association (IIA) and the Nuclear Threat Initiative (NTI). The Scientific Secretaries for the meeting were Ms O. Makarovska (Division of Radiation, Transport and Waste Safety) and Ms C. George (Division of Nuclear Security).

3. The purpose of the meeting was for Member States to exchange experiences in relation to financial provisions, as recommended by paragraph 22 (b) of the Code of Conduct on the Safety and Security of Radioactive Sources, to ensure safe management and secure protection of radioactive sources once they have become disused, and to discuss the challenges faced by regulatory bodies and other stakeholders in this area.

4. The meeting was opened by Mr Juan Carlos Lentijo, Deputy Director General of the Department of Nuclear Safety and Security (DDG-NS). In his opening remarks, DDG-NS noted that to date, 134 States have made a political commitment to implement the Code, and that 107 of those States have additionally notified the IAEA Director General of their intention to act in a harmonized manner in accordance with

the Guidance. He emphasized the roles and responsibilities of States, regulatory bodies, licensees, users, and industry to ensure that radioactive sources are appropriately managed at all lifecycle stages, in particular at the end of the lifecycle when disused sources are particularly vulnerable to accidents or malicious acts. DDG-NS acknowledged States which have made recent political commitments to the Code and the Guidance and noted the ongoing work by Member States to finalize and agree the draft supplementary guidance on the management of disused sources. Finally, he thanked Canada and the United States for their extra-budgetary financial contributions to support broader participation in the meeting.

5. A number of presentations on issues relevant to the safety and security of radioactive sources were made by representatives of the IAEA Secretariat and invited participants in plenary sessions during the meeting. Plenary presentations covered the establishment and implementation of financial provisions from different perspectives: regulatory, radioactive sources users, non-governmental organizations of operators and suppliers, and operators of radioactive waste management facilities.

All presentations were made available to participants on a secured shared webpage. These plenary presentations are summarized below.

Opening Session: Overview of the financial provisions for the management of the radioactive sources once they become disused

6. The Secretariat (Ms C. George, Ms O. Makarovska, and Mr R. Pacheco) provided an overview of the Code objectives and provisions relevant to ensuring adequate financial provisions can be implemented once radioactive sources have become disused. The Secretariat discussed the various stakeholders and their roles and responsibilities vis-a-vis implementation of paragraph 22 (b) of the Code and emphasized, by way of examples of previous incidents involving radioactive sources, the need to ensure safety and security at all lifecycle stages. The Secretariat also reflected on previous international and regional Code meetings and relevant conclusions related to implementation of the provisions of the Code concerning disused sources. In particular, the conclusions of the regional topical meetings on the national strategy for the management of disused sources, its main elements and reasons that can make implementation of return agreements problematic were reported. Finally, the Secretariat described a self-assessment activity that was done by States based on an IAEA questionnaire and summarized the results of that exercise. In particular, it was noted that the system of financial guarantees usually includes requirements to have contractual provisions for the return of the radioactive sources, once they have become disused. Additionally many States require financial guarantees mainly in the form of payments, insurance, or agreements with the national radioactive waste storage operator.

7. Participants noted that in addition to the paragraphs highlighted by the Secretariat, paragraph 21(c) of the Code also calls on States to ensure that its regulatory body is able to draw on specialist resources and expertise from other relevant government agencies that are required in order to assess the appropriateness of financial guarantees under consideration. A question was also raised with regard to the provision of additional guidance focused on the management of disused sources; in this regard, the Secretariat clarified the status of the draft supplementary guidance prepared between 2014 and 2016 and the ongoing process of informal consultations

aimed at finalizing that guidance. One participant noted that repatriation is a management option for developing countries and the Secretariat clarified that repatriation is not part of a national strategy as it requires the involvement and agreement of another State. Regarding the self-assessment, participants inquired if the adequacy of the financial provisions were also analysed; the Secretariat clarified that this analysis was not part of the study. One participant noted the challenge of States in managing disused sources in cases where they are designated as radioactive waste. In this regard, the chair emphasized the need for a comprehensive national strategy for the management of disused sources appropriate to each State.

Plenary Session # 1: Regulatory Body Perspectives - Financial Provisions as a Prerequisite for Authorization

8. In the first plenary session, participants from four countries (Mr. J. Schmidt/Canada, Mr. S. Hellsten/Finland, Mr. B. Pillon/France, and Mr. Z. Kayun Farni/Malaysia) provided overviews of their State's implementation of financial provisions within the regulatory framework.

9. Canada described its approach to expanding its financial guarantee programme to cover the use of radioactive sources. Under the Nuclear Safety and Control Act, the Canadian Nuclear Safety Commission (CNSC) has the authority to impose a financial guarantee on licensees and this requirement came into force in 2015. An initial proposal was formulated and included in a discussion paper for consideration by industry. Licensees raised concerns about the need to have a considerable amount of funding available upfront and the lack of a graded approach in the cost model. As a result, the CNSC re-examined the cost factors and risks associated with sources and the decision was taken to implement an insurance policy with licensee contributions, whereby the licensees pay the cost of the insurance premium but the CNSC is the sole insured party. To date, the CNSC has not made a claim, but expects that future experience will inform how the established mechanism works in practice.

10. Finland described its legal and regulatory framework of financial provisions for the management of disused sources, including the current Radiation Act which requires a guarantee in cases of 'extensive' manufacture, use, or trade of radiation sources, or which may produce radioactive waste. The amount of the financial guarantee is based on the category of radioactive sources, and may take the form of cash or surety bond. There is a basic fixed fee, plus a 'charge unit' surcharge based on a set formula. Financial guarantees are not required for public entities. In cases where a licensee is in default, the State will assume responsibility for disused radioactive sources management and recover the costs from the licensee where possible, but this situation has not yet occurred. New legislation under development would change the calculation method of 'charge units' and will reduce the current activity limit threshold for financial provisions.

11. France presented its experience with regard to financial provisions for management of disused sources which came into force in March 1990. Once implemented, licensees were given a grace period to return the disused sources to suppliers. With the French approach, disused sources are managed by suppliers, whereby suppliers have specific responsibilities including verifying that a client user is appropriately licensed, that a recovery solution is proposed, and the establishment of a financial guarantee. When a supplier seeks to supply a source, one of the

conditions of authorization by the regulatory body (ASN) is ensuring that the supplier has made adequate management arrangements for the source once it becomes disused, including the establishment of a financial guarantee. The monetary amount of the financial provision required for each type of source is established by the national radioactive waste operator (ANDRA) while the technical support organization and national register administrator (IRSN) determines the number of sources to be guaranteed by each supplier. Suppliers may then make a deposit per source or to make an annual contribution to a private mutual fund. Financial guarantees do not apply to suppliers when sources are supplied to users outside of France.

12. Malaysia shared the perspective of the regulatory authority, AELB, which has implemented financial provisions as a prerequisite of authorization of medical facilities. AELB requires licensees to have a 'return to supplier' arrangement in place as a condition of authorization. The letter of undertaking from the qualified supplier must be presented during the assessment of the licence application. In cases where the licensee is unable to return the disused source to a supplier, the licensee must obtain the agreement of AELB to return the disused source to the national radioactive waste management facility. AELB maintains the inventory of disused sources and those to be disposed of in its national inventory.

13. Participants inquired about the Canadian insurance approach and the difficulty of educating insurance providers on associated liabilities and risks. Participants also inquired about the exemption to the application of the financial guarantee for radioactive substances with activity levels less than 50 MBq. With regard to the French system, participants inquired if suppliers must be French, which is not the case, but the supplier must hold a licence from the French regulatory body and participate in the French financial guarantee system. Participants inquired about the rationale for the ten-year rule on the use of a radioactive source, the definition of 'supplier' which is defined in French law, and how the requirement on licensees is enforced through regulatory inspections and enforcement actions.

Plenary Session #2: Licensees' and Radioactive Waste Facility Operators' Perspectives - Advanced payments, funds, guarantees and agreements

14. In the second plenary session, the Secretariat invited a number of participants (Mr. C. Englefield/UK, Ms. Y. Dimitrova/Bulgaria, Mr. J.F. Sabouang/Cameroon, Mr. P. McKenzie-Wynne/International Irradiation Association, Mr. P. Habighorst/USA, and Mr. A. Mastauskas/Lithuania) to provide presentations describing the licensee/operator perspective when implementing requirements for financial provisions established by regulatory bodies. Whilst the majority of meeting participants represented regulatory bodies, this session also included representatives of the source supplier/user industry.

15. The UK, from the perspective of the regulatory body, explained that its requirement on all holders of radioactive sources to have in place financial provisions (charged funds, third party or parent company guarantees) or 'other equivalent means' (takeback, source exchange, and lease back) took effect on 1 January 2006. The UK formulated a "HASS Financial Provision Panel" to provide support to the regulatory body to assess the adequacy of the proposed financial provision and to support licensees. The need for a multidisciplinary approach involving radiation protection

officials working with financial and legal experts was highlighted as essential to effective establishment of financial provisions.

16. Bulgaria described the ‘polluter pays’ principle which underpins the legal framework for their management of radioactive waste including disused sources. The State Enterprise for Radioactive Waste Management has the exclusive right and obligation to operate radioactive waste facilities. There is a State fund to finance the State Enterprise whereby contributions from licensees that use sources are due at the time of transfer to the State-owned facility, but there is currently a proposal to modify this approach to require preliminary contributions. Licensees have the option to transfer disused sources to the national storage facility or to store them temporarily on their premises for future reuse or recycling for a period based on the type of radioactive source and the safety and security arrangements.

17. Cameroon provided an overview of its national inventory of radioactive waste including disused radioactive sources, as well as the available management options. As part of an assessment prior to authorization for the import of radioactive sources, the regulatory body requires a return to supplier arrangement to be in place by the licensee. Cameroon is in the process of establishing a radioactive waste management facility for low-activity sources, with the emphasis on return to supplier arrangements for high activity sources due to a lack of qualified staff to manage these disused sources.

18. The International Irradiation Association (IIA) presentation focused on Co60 radioactive sources, recalling conclusions from the 2016 Code meeting related to management of disused sources. IIA drew attention to various considerations to be taken into account when calculating the cost of managing a disused source, including the monetary value of the disused source, available management options (return to supplier, storage, and disposal), variability of disposal costs, and costs today versus in the future. IIA also described various forms of financial securities and associated benefits and challenges, including payments and bonds, insurance, agreements, and guarantees, and corporate internal accounting provisions. The concept of establishment of an “insurance pool” was raised by IIA as a possible route to address the uncertainties of insurance providers in providing coverage for disused source management, and to open up the insurance option to a larger set of States with limited national radioactive sources inventories who may wish to consider this form of financial provision.

19. The USA described its regulatory requirements for financial assurances for quantities of sealed sources above listed thresholds (Category 1 sources), involving provision of a fixed monetary fee or submission of a decommissioning funding plan. Although there is no financial assurance requirement for sources below the prescribed thresholds, this does not obviate licensees’ responsibility for end of life management. In 2016, the regulatory body (US NRC) completed a scoping study involving various stakeholders to determine if further financial planning requirements are needed. As a result, a recommendation was made to the US NRC Commission to broaden the financial assurance requirements to apply to all Category 1 and 2 sources; if approved, US NRC staff will begin the process of expanding the financial assurance requirements.

20. Lithuania discussed insurances for radioactive waste facility services in cases of failures in return to supplier. Starting with a description of its regulatory framework and national inventory, Lithuania described the requirement for users to make financial provisions for the management of disused sources through financial or ‘any other equivalent means’. It is also prescribed in regulation that recipients may only import sources if they have made arrangements for return to a supplier. Additionally, financial provisions are made for transfer of disused sources to the national waste management facility in the case of ‘return’ failure. National waste management facility is responsible for estimating the costs associated with the management of disused sources and insurance is provided for this amount by the licensee that uses the source. In the case of orphan sources, these costs are covered by the State. Lithuania shared information about future plans to establish a near surface disposal facility for low- and intermediate-level waste.

21. During the general discussion, participants emphasized the need to know the liability costs associated with the various disused source management options, in order to support the assessment of risks by insurance providers and other stakeholders. Participants inquired about UK cases where the supplier is no longer in business; the challenge faced by small-scale users (such as industrial radiographers) in obtaining necessary expertise and advice to determine the funding required for disused source management; and clarification if the parent company guarantee applies for a parent company located outside of the UK. Participants asked about the cost associated with the management of sources in Bulgaria and for clarification of whether a licensee must still contribute to the State fund even if the licensee has a return to supplier arrangement. Participants asked Cameroon to elaborate on its requirement on applicants to provide a return to supplier arrangement as part of the authorization process. Participants asked IIA about the availability of international storage, and the distinction between supplier and manufacturer and between re-encapsulation and recycling. Participants sought clarification on the US regulatory thresholds for financial assurances; the definition of ‘end of useful life’; and whether the expansion of the financial provision requirements will include short-lived (less than 120 days) radionuclides. Participants also asked Lithuania for examples of how licensees may seek insurance for the return of disused sources and were informed that to-date, licensees have successfully returned the disused sources to suppliers.

Plenary Session #3: Practical Examples – Implementation of “Return to a Supplier” Agreements

22. The third plenary session focused on case studies related to implementation of ‘return to supplier’ agreements and included perspectives of industry and regulatory bodies (Mr. J. Miller/ISSPA, Mr. S. Sawadogo/Burkina Faso, Mr. H. Briso/Chile and Mr. B. Setiawan/Indonesia).

23. ISSPA provided industry’s perspective on options for managing disused sources, including long-term storage, disposal, and transfer of a disused source to a manufacturer. ISSPA also described the variable costs to be considered, including for source/device removal, transportation (including import/export licensing), and source management. ISSPA highlighted the variability of costs as a primary limitation in the exercise of ‘return to supplier’ or ‘takeback’ agreements. It was suggested that it would be difficult to estimate definitive ‘takeback’ costs as the basis for a financial assurance or a takeback agreement beyond a timeframe of about 3 years.

24. Burkina Faso described its experience in the return of disused sources to suppliers. Legislation requires licensees to be responsible for the management of disused sources and this requirement is further elaborated in the authorization process, whereby a certificate of a 'return to supplier' agreement must be presented by the applicant in order to receive the authorization. Burkina Faso also shared its experience in the return of disused sources to suppliers.

25. Chile presented its national strategy and practical examples for the safe management of disused sources. Chile utilizes a decision tree to determine the available options, including return to a supplier, export for recycling or national safe and secure storage. Chile also described the process of development and contents of a bilateral Administrative Arrangement between two regulatory bodies CCHEN and the CNSC to facilitate notifications of imports and exports of radioactive sources between Chile and Canada, noting that such an arrangement can also facilitate effective communications between regulators and other stakeholders when disused sources are proposed for transfer between States.

26. Indonesia described its experience in the return of high-activity disused sources, specifically the return of a disused Co60 teletherapy source. The technical and administrative preparations, as well as the safety and security measures were described. Indonesia also discussed the challenges in return to supplier, namely the high shipping costs, availability of suitable transport containers, and lack of necessary technical expertise.

27. Participants asked ISSPA for specific details regarding transportation and disposal costs and noted the challenge of available certified transport packaging and transport modalities. In the case of Burkina Faso, there is temporary storage at different mine locations, but to-date, pooled or common storage facilities have not been explored. The Secretariat also clarified the distinction between a return to supplier agreement, which is a commercial undertaking, and repatriation, which involves a campaign for the return of a disused source to the exporting or supplier State. Participants sought clarification that the return of the disused source in Indonesia was financed by the licensee once the source became disused and not through a financial provision made in advance. The Secretariat noted that presentation of a return to supplier agreement upon application for an authorization is the first step in the establishment of appropriate financial provisions to manage a source once it becomes disused.

Plenary Session #4: Management Options for Disused Radioactive Sources

28. In addition to opening remarks from Mr Andrea Boria Di Tigliole, A/Director of Nuclear Fuel Cycle and Waste Technology Division, the Secretariat (Ms C. Roughan/NEFW, Mr J.M. Roncero/TCAF) described the Agency's activities to support Member States in the 'cradle to grave' management of radioactive sources and, in particular, once radioactive sources become disused. Two additional participants (Ms. Z. Norasalwa/Malaysia and Mr. A. Riahi/Tunisia) delivered presentations describing specific missions and other assistance received from the Agency to manage disused sources.

29. Malaysia discussed current work to condition and dispose of low-activity sources in a borehole disposal facility. Borehole disposal planning began in 2013

following a government decision and it is anticipated that conditioning activities will be completed in late 2017 followed by borehole disposal in 2018. Characterization, dismantling and conditioning activities, and a video depicting these stages, were presented.

30. Tunisia described the repatriation of a Cs137 irradiator source to France which was completed with the assistance of the IAEA within the framework of the regional technical cooperation project on cradle to grave management of radioactive sources.

31. Participants raised questions about the source of funding for repatriation and recycling operations, the breakdown of costs involved in the use of the Agency's Mobile Hot Cell, transport and in-country expertise, and the work of the Agency in developing decision-making guidance for States to make informed choices in national approaches to the management of disused sources. Participants also asked about the relationship between the decision-making guidance and the drafted supplementary guidance under the Code, and it was clarified that the underlying assumption for the decision-making guidance is that the State has already established a national policy for the management of disused sources. Participants inquired about the source of funding for activities for managing disused sources in Malaysia and whether alternatives to borehole disposal were considered. Because the inventory to be disposed of in the borehole is low activity, this disposal option was selected as a first option, recognizing that other disposal options will likely be needed in future.

Panel Session #1: Financial Provisions for the Safety and Security of Radioactive Sources Once They Become Disused

32. Following plenary sessions 1-4, some presenters from each plenary session were convened into a Panel to discuss key messages, reflections, ongoing issues, and suggested actions for the Secretariat and Member States. The following points raised by participants in the meeting are noted:

- The benefits of radioactive sources should be recognized, and provisions for their safe and secure use should be ensured throughout the entire lifecycle.
- In many States, management options for disused sources include temporary storage at users' facilities, return to supplier, and repatriation. For States with limited resources, the development of guidance on the decision-making process for different management options by the IAEA would be welcomed.
- Approaches for financial provisions are varied and States should select the most appropriate methodologies based on their national context. The development by the IAEA of an annotated listing of available financial provision mechanisms, and criteria for selection an appropriate mechanism, would be useful for States embarking on this process. Regulatory bodies will also need to draw on necessary legal, financial accounting, and contracting expertise to develop credible estimates of costs and liabilities associated with disused source management options.
- The incidental costs associated with management options such as for transport are significant and should be taken into account in establishing financial provisions.

- Financial provisions should be reviewed periodically to take into account changes in costs, particularly those associated with disposal, and to ensure that provisions remain sufficient and appropriate.
- Activities provided by the IAEA are intended to develop robust and sustainable national capacities for managing disused sources. Efforts are ongoing to develop more cost-effective strategies.
- An expert team or advisory panel of international experts to advise Member States on the appropriate financial provision mechanism(s) could be beneficial to States considering this in their national programmes.
- Pooling insurance resources on a regional or sub-regional basis may be one way to address the challenge of some States in establishing a national scheme for financial provisions.
- In some cases, States assume financial and regulatory responsibility for the management of orphan sources.
- Some States noted that replacement of devices using radioactive sources with alternative technologies, where appropriate, could be a means of reducing the costs of managing disused sources.
- For financial provision mechanisms to be successful, States should have in place a robust legal and regulatory framework for assuring the safety and security of radioactive sources.

Participants also posed questions on actual cases of implementation of Canada's financial provision mechanism. A participant questioned if 'return to a supplier' is a realistic approach for licensees; industry participants clarified that the majority of return to supplier arrangements are in the context of 'one to one' exchanges, and also that while a 'return to supplier' arrangement is realistic to implement in many situations, it is not necessarily a complete solution to the issue of disused source management.

Plenary Session #5: Legacy Disused Radioactive Sources

33. The fifth and final plenary session was intended to discuss an ongoing challenge for many Member States, namely the safe and secure management of legacy sources which have fallen out of regulatory control or that have not been under regulatory control. One presentation from the Secretariat (Mr T. Pelletier/NSNS) and three presentations from participants (Mr. M. Yasser/Egypt, Ms. M. Barlow/USA, and Ms. N. Rybalka/Ukraine) illustrated various approaches utilized by Member States to deal with radioactive sources which pre-date regulatory control or are discovered within a State without the appropriate authorization.

34. The Secretariat described the relevant Nuclear Security Series guidance applicable to material outside of regulatory control as well as an explanation of the concept of and activities offered by the Secretariat to assist States with the establishment of national nuclear security detection architectures.

35. Egypt described its legal and regulatory framework for the management of radioactive sources, specifically as it relates to disused sources. Egypt described its national efforts, whereby the Egypt Atomic Energy Agency EAEA coordinates with the regulatory body, ENRRA, in the lifecycle management of radioactive sources. To deal with the specific issue of orphan sources, Egypt, in cooperation with the US, established a ‘no cost, no penalty’ amnesty recovery programme whereby users may transfer these sources to a national waste management facility free of cost and liability. The programme also includes extensive training on safety, source handling and nuclear security and a public awareness campaign. Various activities, including source recovery campaigns, undertaken in cooperation with the US DoE were also described.

36. USA focused on the ‘remove’ pillar of the mandate of the US/DoE Office of Radiological Security (ORS) and discussed two key initiatives, namely the offsite source recovery programme (OSRP) and the search and secure programme. A historical overview of the OSRP was provided, and the cooperating agencies and types of sources recovered were described. Measures to support domestic efforts through the development and manufacture of transport containers and delivery of training, as well as international efforts through cooperation with the IAEA and bilateral partners for the removal of disused sources were also described. Finally, the USA described its efforts to develop national capabilities for locating and securing orphaned sources. Search and secure assistance is available through classroom and practical training modules and the dissemination of e-learning and interactive training tools.

37. Ukraine provided an extensive overview of its programme and experience for dealing with disused and orphan sources, including the availability of “Radon” facilities and services for radioactive waste management. Ukraine spoke about its national radioactive waste management strategy which was approved by Government Order in 2009 as well as a State-level programme for the safe storage of disused high-activity sources. Bilateral partnerships with various States and multilateral organizations have been established for upgrading and modernizing the whole system for disused source management as well as Radon facilities to include conditioning capabilities and equipment and increased storage space. A centralized storage facility with necessary conditioning equipment is also in the process of commissioning.

38. Participants inquired about the main interlocutor for establishing a nuclear security detection architecture and the Secretariat explained that there is no ‘one size fits all’ approach, but emphasized that coordination at the national level is essential. Participants posed questions about planning for national storage facilities as well as Egypt’s future plans for the disused sources. Egypt explained that a long term disposal solution such as borehole is foreseen. Participants sought clarification about the ‘no questions asked’ approach of the amnesty programme, highlighting the need for technical and historical details and to prevent future incidents. The potential conflict between the amnesty programme and Egypt’s legal framework was also raised. On the US programme for recovery of disused sources, participants sought clarification if this includes non-US origin sources. Some participants inquired about the criteria used by the US in prioritizing removal activities and the thresholds for protection measures.

Panel Session #2: Financial Provisions for the Safety and Security of Legacy Radioactive Sources

39. The second panel, consisting of participants from plenary session #5, focused more specifically on the application of financial provisions for the management of legacy sources. The following points raised by participants in the meeting are noted:

- The Code does not contain a definition of ‘legacy source’, but developing a working-level understanding of this term would be helpful to frame future discussions about the development, scope, and responsibilities for application of financial provisions for the safe and secure management of these sources.
- Many States face the ongoing challenge of identifying appropriate financial provisions in the context of limited management options for disused sources, including legacy sources, available to them. In this regard, further international and bilateral cooperation is needed to support for States in the establishment of national management options such as borehole disposal.
- When there is no defined user or existing end of life management plan to deal with a source that is not currently under regulatory control, States are often required to intervene to assure that financial provisions are available for the safe and secure management.
- Financial provisions are an important aspect of establishing a national strategy for the management of disused sources.

Conclusions:

40. A number of high-level conclusions were identified by the Chairman:

- 40.1. Considerable progress has been made by both States and users in assuring that the safe and secure management of disused sources is addressed prior to the acquisition and authorization for the management of new radioactive sources. In order to develop financial provisions for managing disused sources, many States require further information regarding actual end of lifecycle costs.
- 40.2. Although there are various options for establishing financial provisions, some options may not be appropriate for all States. Therefore, the scope and definition of application of financial provisions (i.e. what exactly is being assured), need to be clarified by States prior to the selection and establishment of a financial provision requirement.
- 40.3. Multiple mechanisms for establishing financial provision requirements were discussed during the meeting. A list of available financial provision mechanisms, as well the factors to be taken into consideration in order to select an appropriate mechanism would be of great benefit to many States.
- 40.4. Many States recognized the value of international and regional meetings to discuss the issue of financial provisions for the management of disused sources, where those States with similar regulatory frameworks,

challenges, and industries/users can discuss common approaches and solutions.

40.5. With regard to end of lifecycle costs and the development and implementation of financial provisions, continuous engagement between regulatory bodies with licensees and industry is essential to ensure appropriate cooperation. For example, promotional consultations and associated activities prior to requirements coming into force would ensure smoother implementation of the measures.

40.6. Obtaining insurance in the context of establishing financial provisions was recognized by many States as a significant challenge, particularly those with limited national inventories or users of radioactive sources.

40.7. Many States continue to face challenges in obtaining the necessary technical and legal expertise for identifying, evaluating, and implementing financial provisions within their national strategies for managing disused sources. In addition, many States face the challenge of assessing costs related to, for example, source conditioning, transportation, and disposal.

40.8. Many States noted that further guidance on State and regulatory body responsibilities as well as management options for disused sources is needed, including to assist in assuring that adequate and appropriate financial provisions can be established once a radioactive source becomes disused. In this regard, the work of the Secretariat and Member States to draft supplementary guidance to the Code on management of disused sources is welcomed and publication of this guidance is recognized by many States as a priority.

40.9. Many States noted that in cases where arrangements for management of disused sources were not made prior to acquisition of the sources, or where prior arrangements can no longer be implemented, the State intervenes to make financial or other appropriate arrangements for the management of such sources. Presentations and interventions made during the meeting noted the substantial costs associated with such arrangements.

40.10. In the establishment and implementation of financial provision mechanisms intended to address the situation where the user or supplier becomes insolvent, due account should be taken to ensure that funds are available when required for the safe and secure management of disused sources.

Recommendations

41. A number of recommendations were identified by the Chairman:

41.1. In the establishment of a national strategy for the management of disused sources, States should explore different options for establishing financial provision mechanisms, drawing on the examples of States which have already done so.

- 41.2. As per paragraph 21(c) of the Code, States should ensure that their regulatory bodies are able to draw upon relevant specialist resources and expertise from other relevant government agencies. This would allow for the provision of support to regulatory bodies to assess the adequacy of the financial provisions made by users, suppliers, and national radioactive waste management entities in an informed and credible manner.
- 41.3. Given the views expressed by many States as reflected in paragraph 40.3 of this report, the Agency is encouraged to consider ways in which an annotated listing of existing financial assurance mechanisms, including a set of considerations and factors to enable States to make an appropriate selection, could be established.
- 41.4. Consideration could be given to holding one or more regional meetings, as appropriate, to explore common approaches for the establishment of financial provisions, particularly in States with smaller communities of source users. One topic could include, for example, the possibility of establishing a regional or sub-regional insurance pool mechanism.
- 41.5. When a 'return to supplier' agreement is the selected option for management of a disused source, States should consider requiring that users, in any agreement with the supplier, include provisions for the initial estimation and allocation of costs of return between the user and the supplier, and a mechanism for periodic review and, if appropriate, revision of such cost estimates.
- 41.6. In light of the conclusion in paragraph 40.9, in cases where arrangements for management of disused sources were not made prior to acquisition of the sources, or where prior arrangements can no longer be implemented, the State in which the disused sources are located should consider the need to assume financial responsibility for the management of such sources in their national strategy.



Larry Chamney

Chairman

29 June 2017