GUIDANCE ON THE MANAGEMENT OF DISUSED RADIOACTIVE SOURCES

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FOREWORD

To be inserted in final stage

Should address the legally non-binding nature of the guidance

The Code and its supplementary Guidance on import and export and are non-binding international instruments, designed to promote a harmonized high level of safety and security of radioactive sources worldwide.

Refer to foreword of I/E guidance

Refer to text drafted in summer 2014

Include language on State’s responsibility for safety and security
I. PREAMBLE

Radioactive sources offer many benefits in medicine, industry, agriculture, research and education. Through implementation of the Code of Conduct on the Safety and Security of Radioactive Sources (the Code), the strengthening of national legislative and regulatory infrastructures globally has led to major improvements in the protection and control of radioactive sources. The management of disused sources can be improved by establishing national policy and strategy, responsibilities and resources.

While the Code recognizes the importance of managing disused sources safely and securely, the applicable provisions are dispersed throughout the text and do not provide sufficient guidance for States in order to fully address this topic. As a consequence, some States have requested further guidance on the management of disused sources consistent with the Code. This supplementary Guidance is intended to meet that need.

This non-legally binding Guidance takes account of the relevant Safety Standards and Nuclear Security Series publications, and the provisions of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997). It is intended to be used by States when establishing or strengthening their national policy, strategy and legislation consistent with their relevant international commitments.

II. STRUCTURE

Each section of this Guidance addresses a particular topic related to management of disused sources. Each section is introduced with explanatory text intended to provide background information and context on the section’s topic as well as references to the relevant provisions of the Code. Following this explanatory text, numbered operative paragraphs provide guidance to States on the section’s topic.

III. OBJECTIVE

Paragraph 5(b) of the Code states that the objectives of the Code “should be achieved through the establishment of an adequate system of regulatory control of radioactive sources, applicable from the stage of initial production to their final disposal, and a system for the restoration of such control if it has been lost.” Paragraph 7(a) indicates that every State should take the appropriate measures necessary to ensure “that the radioactive sources within its territory, or under its jurisdiction or control, are safely managed and securely protected during their useful lives and at the end of their useful lives.” Paragraphs 14, 15, 20, 22 and 27 also contain provisions that are directly relevant to the management of disused sources.

1. Within the context of the overall lifecycle management of radioactive sources, the objective of this Guidance is to encourage States to improve the safety and security of disused sources in line with the provisions of the Code. The intent is to recommend actions that should be taken, starting prior to acquisition of a source and continuing through disposal, to ensure that disused sources are safely and securely managed.

2. This Guidance is intended to advise States on the available management options for disused sources that should be considered. Short-term storage and transport, which are addressed
in this Guidance, are not considered as options in themselves, but are often necessary interim steps in the implementation of options.

IV. SCOPE

3. This Guidance applies to all radioactive sources within the scope of the Code.
4. This Guidance is limited to the safe and secure management of disused sources. While recognizing that such management should be compatible with the State’s overall programme for radioactive waste management, this Guidance does not address such a programme, which is dealt with in other IAEA publications.
5. This Guidance does not address the circumstances in which a radioactive source may become disused; rather, it provides guidance on how to manage a radioactive source once it becomes disused. It also applies to orphan sources, once regulatory control has been regained.

V. DEFINITIONS

6. The terms used in this Guidance have the same meanings as those terms defined in the Code and the supplementary Guidance on the Import and Export of Radioactive Sources (the Import–Export Guidance). The following additional terms are specific to this Guidance.
   a. “Metal recycling industries” means all those entities involved in the recycling of scrap metal, such as facilities carrying out collection, sorting and processing of scrap metal, including foundries, and metallurgical operations.
   b. “Recycling” means using the radioactive material from a disused source in a new radioactive source or in an unsealed form.
   c. “Reuse” means using a disused source for its original application or for another application without disruption of the existing outer source capsule or creation of a new outer source capsule.
   d. “Short-term storage” of a disused source means storage in conjunction with the implementation of a chosen management option (return to a supplier, reuse, recycling, or long-term storage and disposal)
   e. “Long-term storage” of a disused source means storage in a dedicated facility pending disposal.
   f. “Supplier” means any entity, internal or external to a State, that is authorized to manufacture or recycle radioactive sources or provide radioactive sources or devices that contain radioactive sources.

VI. APPLICATION OF THIS GUIDANCE

This Guidance provides a general framework for the management of disused sources. Because radioactive sources are often incorporated in devices or are stored or transported in containers, the Guidance also applies to these devices and containers, when appropriate.

Detailed requirements and guidance relevant to implementation of this Guidance are found in the IAEA Safety Standards and in the recommendations and guidance in the IAEA Nuclear Security Series publications, including those listed in Annex 1. These publications, recognize the need for safety and
security measures to be applied using a graded approach, whereby the degree of effort to be devoted in any particular situation is commensurate with the risk to be addressed. This graded approach is also reflected in the system for categorization of radioactive sources used in the Code. While the Code applies to Category 1–3 radioactive sources, it indicates that the provisions may be extended to other radioactive sources and to aggregations of lower activity sources.

In implementing this Guidance, each State should make appropriate use of the IAEA Safety Standards, Nuclear Security Series publications, and other technical publications. Each State should also encourage the regulatory body, other competent authorities, and relevant industries to cooperate in order to ensure that disused sources are managed in such a way that individuals, society and the environment are appropriately protected.

7. Each State should adopt a graded approach to the safe and secure management of disused sources.
8. While the scope of this Guidance is defined, States should also consider applying the same principles to the management of other potentially harmful disused sources.
9. Each State should take account of its national circumstances and apply the provisions of this Guidance, as appropriate.

VII. NATIONAL POLICY AND STRATEGY FOR THE MANAGEMENT OF DISUSED SOURCES

The Code includes a number of provisions addressing topics related to management of disused sources, including establishment of a national register of radioactive sources (paragraph 11); encouragement of reuse and recycling (paragraph 14); responsibilities of manufacturers and suppliers for the safety and security of sources (paragraph 15); agreements regarding the return of disused sources to a supplier (paragraph 20(e)(7)); storage of sources in facilities appropriate for the purpose of storage (paragraph 20(p)), including storage of disused sources for extended periods of time in facilities fit for that purpose (paragraph 20(q)); considerations for disposal of disused sources (paragraphs 5(b) and 22(c)); financial provisions for disused sources (paragraph 22(b)); and re-entry of disused sources into a State’s territory for return to a manufacturer (paragraph 27). The Code also includes provisions for national strategies for gaining or regaining control over orphan sources (paragraph 8(c) and (d)).

A national policy and strategy on the management of disused sources, which may be part of a broader policy and strategy, enables a State to address all these provisions in a coherent manner. A national policy represents a statement of the government’s intent; a strategy sets out the mechanisms for implementing the national policy.

Funding mechanisms for the management of disused sources may differ for new radioactive sources, for radioactive sources that have been previously authorized, and for orphan sources. Such mechanisms may include trust funds, surety bonds, letters of credit, insurance policies, taxes or any other mechanism satisfactory to the regulatory body. For previously authorized and orphan sources, the State may apply a case-by-case approach including such mechanisms or funding by the State.
10. Each State should establish a national policy and strategy for the management of disused sources that reflects the State’s long-term commitment to their safe and secure management. The policy and strategy together should:
   a. Include provision for maintaining regulatory control of a radioactive source when it becomes disused;
   b. Ensure that, prior to acquisition of a radioactive source, adequate arrangements are in place, including funding for its management, once it becomes disused;
   c. Identify responsibilities and arrangements, including funding, for the management of a disused source in cases where such arrangements were not made prior to acquisition of the radioactive source;
   d. Provide that an orphan source, once identified, is brought under regulatory control and, if it cannot be returned to beneficial use, managed as a disused source or radioactive waste, as appropriate;
   e. Consider all feasible management options for disused sources and ensure the most appropriate management options are adopted;
   f. Ensure the availability of short-term storage and transport necessary for the management options adopted;
   g. Establish clear arrangements to determine when a disused source is considered as radioactive waste and should be managed accordingly; and ensure that these arrangements do not unduly limit management options that would not be available for radioactive waste, such as return to external supplier, reuse, recycling;
   h. Ensure the timely availability and sustainability of long-term storage, and the necessary financial and organizational resources;
   i. Provide for the development of a national disposal programme for disused sources in a timely manner; and
   j. Ensure that information on disused sources is maintained by the State, for example in the national register of radioactive sources or in the national inventory of radioactive waste.

11. Each State should ensure that the national policy and strategy for the management of disused sources is compatible with the national policy and strategy for the management of radioactive waste.

12. Each State should ensure that State organizations with responsibilities for safety and security of radioactive sources, particularly the regulatory body, promote appropriate safety culture and security culture in their implementation of the national policy and strategy and ensure the availability of appropriate programmes for the training of all those involved in the management of disused sources.

VIII. LEGISLATION AND REGULATIONS

Legislation and regulations relating to safety and security of radioactive sources is covered in paragraphs 18 and 19 of the Code. Legislation and regulations give explicit expression to a State’s national policy and strategy.
13. Each State should ensure that legislation and regulations include provisions for the safe and secure management of disused sources that give legal effect to the national policy and strategy.

14. The legal and regulatory framework should:
   a. Ensure that all activities related to the management of disused sources are subject to authorization; and
   b. Ensure that each disused source remains under continuous regulatory control.

IX. REGULATORY BODY ROLES AND RESPONSIBILITIES

Paragraphs 20–22 of the Code deal with the general roles and responsibilities of the regulatory body. Paragraph 20(e)(vii) indicates that States “should ensure that the regulatory body established by its legislation has the authority to ... attach clear and unambiguous conditions to the authorizations issued by it, including conditions relating to ... the safe and secure management of disused sources, including, where applicable, agreements regarding the return of disused sources to a supplier.” Paragraph 22 indicates that States “[among other things] ensure that its regulatory body: (a) establishes procedures for dealing with applications for authorization; (b) ensures that arrangements are made for the safe management and secure protection of radioactive sources, including financial provisions where appropriate, once they have become disused; ... (m) provides guidance on appropriate levels of information, instruction and training on the safety and security of radioactive sources and the devices or facilities in which they are housed, to manufacturers, suppliers and users of radioactive sources.”

15. Each State should ensure that the regulatory body:
   a. Develops regulations and/or guidance on the safe and secure management of disused sources;
   b. Establishes regulatory provisions for acquisition and use of a radioactive source that include:
      (i) Adequate financial provisions to cover the costs of management once the radioactive source becomes disused, including a clear identification of responsibilities for implementing these provisions;
      (ii) A notification by the user to the regulatory body once the radioactive source becomes disused; and
      (iii) The specific arrangements to be put in place for the safe and secure management of the radioactive source once it becomes disused;
   c. Where necessary, modifies the authorization for a radioactive source already in use to ensure its safe and secure management once it becomes disused;
   d. Plans for unforeseen circumstances that may require the management of a radioactive source as a disused source, such as abandonment of a radioactive source or bankruptcy of the user;
   e. Establishes a regulatory process for designating a disused source as radioactive waste, as appropriate;
f. Ensures that responsibility for a disused source is clearly assigned when it is transferred to a third party, such as a carrier, or the operator of a storage, waste processing or disposal facility;
g. Specifies the safety and security requirements for short-term storage by a user on its premises prior to further management option, including the time limit for such short-term storage;
h. Specifies safety and security requirements for reuse or recycling of disused sources;
i. Specifies safety and security requirements for long-term storage and disposal of disused sources;
j. Verifies compliance with the regulations and conditions of authorization through inspections once a radioactive source becomes disused and undertakes any necessary enforcement actions;
k. Develops or obtain access to the necessary competencies and capacity needed to verify that disused sources are safely and securely managed. Such competencies should specifically include:
   (i) Evaluating financial provisions for the management of disused sources, where appropriate;
   (ii) Establishing regulations and conditions of authorization for the safe and secure management of disused sources including those designated as radioactive waste; and
   (iii) Reviewing and assessing plans and arrangements for the safety and security of long-term storage and disposal facilities;
l. Provides regulations or guidance on the knowledge and competencies needed by those responsible for the management of disused sources;
m. Provides regulations or guidance on retention of information specific to each radioactive source (and related device) necessary for its safe and secure management, once it becomes disused; and
n. Liaises and coordinates with the metal recycling industries, customs, border control, law enforcement and other competent authorities, in order to ensure effective cooperation in the event of the discovery of an orphan source, to ensure its subsequent safe and secure management.

16. In cases where the regulatory body possesses disused sources or is allocated responsibilities for their management, each State should ensure that the regulatory body establishes internal arrangements to preserve the effective independence of regulatory functions consistent with the provisions of paragraph 19(a) of the Code.
17. Each State should ensure that the regulatory body includes in its import or export authorization procedures for a Category 1 or 2 radioactive source, undertaken in accordance with the Import–Export Guidance, an assessment of whether arrangements are in place in the importing State for the safe and secure management of the radioactive source when it becomes disused.

X. RETURN OF DISUSED SOURCE TO A SUPPLIER
Paragraph 20(e)(7) of the Code indicates that “every State should ensure that the regulatory body established by its legislation has the authority to attach clear and unambiguous conditions to the authorizations issued by it, including conditions relating to the safe and secure management of disused sources, including, where applicable, agreements regarding the return of disused sources to a supplier.” A disused source could be returned to its original supplier or original manufacturer, to the supplier of the replacement radioactive source or replacement equipment, or to any other supplier authorized to manage the disused source. The return of a disused source to a supplier is a good management option provided that the supplier has the ability to safely and securely manage the disused source and to consider whether it can be reused, recycled or designated as radioactive waste and disposed of.

18. Each State should establish return to a supplier as one of the options for the safe and secure management of a disused source.

19. When return to supplier is the selected option for a source, the State should consider requiring that prior to the acquisition of the radioactive source, the user has an agreement with the supplier for its return once it becomes disused. In this agreement, consideration should be given to at least the following elements:
   a. An undertaking by the supplier to take back the disused source within a specified time period;
   b. The arrangements for transport and associated conditioning of the disused source in connection with its return, including the provision of a transport package certified in accordance with transport regulations; and
   c. The initial estimation, periodic revision and allocation of the costs of return between the user and the supplier.

20. For a radioactive source for which such an agreement does not exist and return to supplier is the selected option, the State should encourage the user to identify a supplier authorized to manage the disused source and willing to accept the radioactive source, once it becomes disused.

XI. NATIONAL MANAGEMENT OF DISUSED SOURCES

Return of a disused source to a supplier is not always feasible at the time it becomes disused. One impediment to return to supplier is the cost involved, particularly when the supplier is in another State from the one in which the source was used, and such costs were not taken into account, or no agreement was made, at the time of acquisition. Another impediment to return to supplier occurs when the supplier is no longer in business or is bankrupt. The unavailability of a certified transport package at the time of the return of the disused source may be another challenge. A further impediment may be legislative and regulatory requirements that prohibit the re-entry of a disused source into the State from which it originated. For example, the State may have prohibited the import of radioactive waste, in which case, if the disused source is designated as radioactive waste, its import would be refused.
21. To address situations when return to an external supplier is not the selected option or is not feasible, each State should adopt options to manage disused sources nationally, namely reuse, recycling, and long-term storage and disposal.

REUSE OR RECYCLING OF DISUSED SOURCES

Paragraph 14 of the Code provides that “every State should encourage the reuse or recycling of radioactive sources, when practicable and consistent with considerations of safety and security.” A disused source, by definition, is no longer used for the practice for which an authorization has been granted; however, it may be suitable for other uses (e.g., research and training activities, calibration of radiation detection equipment). Reuse, in some cases, may be as simple as transferring the device to another user, whereas recycling is always a technically demanding task that requires particular expertise and authorization. Reuse of a disused source is normally subject to source integrity and quality verification according to regulatory standards. For both reuse and recycling, the removal of the radioactive source from the device in which it is housed and its emplacement in a new device, if required, is a potentially hazardous operation which should only be carried out with appropriate authorization, knowledge, equipment, facilities, and skill. In States that do not have access to the capabilities necessary to conduct these operations, reuse and recycling necessitate the return of the disused source to an external supplier, and the guidance given in the preceding section applies.

22. Each State should ensure, when considering the possibility of domestic reuse or recycling of a disused source, that the appropriate facilities, expertise and technologies will be available or developed when necessary.

LONG-TERM STORAGE AND DISPOSAL

Paragraph 20(q) of the Code indicates that States “should ensure that the regulatory body ... has the authority to ... ensure that, where disused sources are stored for extended periods of time, the facilities in which they are stored are fit for that purpose.”

Long-term storage of disused sources, even if planned for an extended period of time, is not meant to be a permanent solution but rather a stage prior to disposal. Long-term storage requires ongoing institutional control and associated resources, which cannot be ensured indefinitely.

23. Each State should:
   a. Ensure the availability of long-term storage of disused sources in authorized facilities;
   b. Ensure that long-term storage capacity is sufficient for existing and foreseen disused sources as determined by periodic review;
   c. Ensure that a long-term storage facility is subject to a safety and security assessment prior to authorization by the regulatory body and is located, designed, constructed, operated, and decommissioned in conformance with regulatory requirements for safety and security;
   d. Ensure that disused sources are stored to facilitate future handling and processing;
   e. Ensure that disused sources to be stored in a long-term storage facility are conditioned as required by the regulatory body;
f. Ensure that the operator of a long-term storage facility maintains control of the facility and undertakes regular verification of the status of the disused sources in storage;

g. Ensure that the regulatory body conducts periodic review and inspection of the long-term storage facility; and

h. Ensure that records of disused sources in long-term storage facilities are established and maintained.

Disposal of disused sources declared as radioactive waste (i.e. their emplacement in an appropriate facility with no intention of retrieval) is the final step in their safe and secure management, as stated in the definition of management of radioactive sources and the objectives of the Code (Paragraph 5(b)). Many States do not, at present, have actual or planned disposal facilities and will need to make arrangements for disposal of their disused sources.

24. Each State should:
   a. Develop a disposal programme for disused sources that cannot be returned to an external supplier, reused or recycled, that is compatible with the State’s overall radioactive waste management programme;
   b. Ensure that a disposal facility for disused sources is subject to a safety and security assessment prior to authorization by the regulatory body and is sited, designed, constructed, operated, and closed in conformance with specific regulatory requirements;
   c. Ensure that disused sources to be disposed of are conditioned as required by the regulatory body; and
   d. Ensure that information is recorded on disused sources that are planned for disposal and those that have already been disposed of.

XII. MANAGEMENT OF ORPHAN SOURCES

In many States, radioactive sources were in use before a national infrastructure for safety and security had been developed or adequately strengthened and were therefore not under regulatory control. Even in States with long-established and well-developed infrastructures, control of radioactive sources may have been lost, sometimes as a consequence of the absence of any strategy regarding their management once they are no longer in use. The Code includes a number of provisions relating to such orphan sources (e.g. paragraphs 9a, 13a, 22o). Paragraph 22(o) of the Code indicates that each State “should ensure that its regulatory body...is prepared to recover and restore appropriate control over orphan sources...”. All orphan sources, once found, should therefore be brought within the system of the protection and control of radioactive sources¹ and be returned to beneficial use or managed as disused sources, according to this Guidance.

25. Each State should:

¹The detection of an orphan source may trigger specific actions and investigations that fall out of scope of this Guidance, see NSS 15 and SSG-19 for further details.
a. Ensure that persons who are likely to encounter an orphan source during the course of their operations (such as metal recycling industries and customs posts) are aware of the actions required for its safe and secure storage until it can be recovered and placed under regulatory control;

b. Ensure that any person who discovers an orphan source and who has promptly notified the authorities will not incur any penalty or liability associated with the radioactive source;

c. Ensure that after an orphan source has been discovered, it is promptly brought under regulatory control and if appropriate, managed as a disused source; and

d. Make financial provisions to cover the costs of management of orphan sources, including provisions to address situations in which a former user of the orphan source cannot be traced or cannot provide funding.

XIII. SHORT-TERM STORAGE

Short-term storage of a disused source is not in itself a management option but rather a necessary interim step in implementing one or more of the management options. Typical examples of short-term storage are storage at the user’s site when a radioactive source is declared disused and stored pending further management. A further example is storage of an orphan source found at a border control point of a State or in a facility within the metal recycling industries.

The appropriate duration for short-term storage is likely to depend on national circumstances and to the particular disused source. A disused source with a relatively short half-life (for example, less than 100 days) could be stored in a safe and secure facility for a period necessary to allow for its decay to level at which it can be released from regulatory control and managed as non-radioactive material. However, short-term storage of a disused source for protracted periods running into many years, particularly at the user’s site, is not generally appropriate as it may increase the safety and security risks, and to complicate its further management.

26. Each State should ensure that:
   a. short term storage of a disused source always occurs in safe and secure conditions, with proper authorization and periodic inspections; and
   b. the regulatory body sets an appropriate time limit for short-term storage of a disused source, contingent upon availability of other management options.

XIV. TRANSPORT, TRANSIT AND TRANSSHIPMENT

In accordance with Paragraph 7(a) of the Code, radioactive sources should be safely and securely managed during their useful lives and at the end of their useful lives. In accordance with Paragraph 1 of the Code, management includes transport and thus transport is an integral part of management
of disused sources. In addition, paragraphs 28 and 29 of the Code address transport in the context of import and export of radioactive sources.

Transport of a disused source may present specific challenges, including the lack of an approved transport package, valid special form certificate, or a carrier willing to transport the consignment. In addition, certain shipments may require competent authority approval. Such approval activities may require certain detailed technical skills and competences not always available within the competent authority.

27. Each State should:
   a. Ensure that the competent authority has access to the capabilities and resources necessary for the regulatory oversight and approval of shipments, packages and special form and non-special form radioactive material for the transport of disused sources, when needed;
   b. Ensure the availability of certified transport packages and associated services for disused sources, when needed;
   c. Consider using special arrangements for the transport of disused sources that have lost their special form certificate and for the use of transport packages which have lost their certification and cannot be recertified in a timely fashion;
   d. Ensure that the legislative provisions, regulatory and administrative arrangements are in place that allow for the transit or transhipment of disused sources through their territories; and
   e. Encourage carriers to accept shipments of disused sources that have been approved by the competent authority.

XV. INTERNATIONAL AND REGIONAL COOPERATION

The Code aims to foster international cooperation in order to achieve its objectives (see paragraph 5(a)). Paragraph 20 (n) deals with liaison among the State’s regulatory body, the regulatory bodies of other countries and international organizations in order to promote co-operation and the exchange of regulatory information.

28. Each State should cooperate with other States and relevant international organizations, as appropriate, to enhance the management of disused sources and their transport, including by:
   a. Establishing bilateral and regional arrangements;
   b. Sharing information in connection with imports and exports of disused sources;
   c. Sharing information on missing, lost, stolen and found radioactive sources;
   d. Sharing information on radioactive sources and devices used in the past;
   e. Making use of regional regulatory networks and other international and bilateral mechanisms to share information and experience on the management of disused sources; and
   f. Addressing exceptional cases where the management of a disused source in accordance with the national policy is not possible. In such cases, a State may seek to return the disused source to the State from which the radioactive source was
exported (the Exporting State). The acceptance of such a source is at the sole discretion of the Exporting State.

XVI. GENERAL

Paragraph 30 of the Code deals with the role of the IAEA for collecting and disseminating information and for developing relevant technical standards and providing for their application. For management of disused sources, assistance may be provided for the establishment and implementation of a national strategy, which may include the development of long-term storage and disposal facilities. Peer reviews of relevant regulatory infrastructures and training can also be provided.

29. The IAEA should, as appropriate and subject to the consent of the States concerned and the availability of funds:
   a. Maintain a list of States that have written to the Director General that they are working towards following this Guidance;
   b. Assist States, upon their request, in implementation of this Guidance;
   c. Gather and disseminate information from events involving disused sources;
   d. Disseminate this Guidance and related information widely; and
   e. Disseminate any additional information resulting from IAEA programmes designed to assist States in strengthening their national infrastructure for the management of disused sources which a particular State may wish to provide.

30. This Guidance should be reviewed and, if appropriate, revised by Member States every five years, or earlier if necessary.

31. States should understand that the provisions of paragraph 17 of the Code concerning confidentiality should apply where appropriate with respect to information provided or exchanged pursuant to this Guidance, including information made available to the IAEA that was provided to it in confidence.

32. In the interests of international safety and security, the cooperation of all States in following this Guidance would be welcome.
Annex 1: Bibliography

Joint Convention

Code of Conduct

Import and export Guidance

Safety Standards

Safety Fundamentals

- *Fundamental Safety Principles*, IAEA Safety Series No. SF-1,

Safety Requirements

- *Governmental, Legal and Regulatory Framework for Safety*, IAEA Safety Standards No. GSR Part 1,
- *Predisposal Management of Radioactive Waste*, IAEA Safety Standards No. GSR Part 5,

Safety Guides

- *Building Competence in Radiation Protection and the Safe Use of Radiation Sources Safety Guide*, Series No. RS-G-1.4,
- *Regulatory Control of Radiation Sources*, IAEA Safety Guide Series No. GS-G-1.5,
- *Categorization of Radioactive Sources Safety Guide*, Series No. RS-G-1.9
- *Safety of Radiation Generators and Sealed Radioactive Sources*, IAEA Safety Guide No. RS-G-1.10,
- *Radiation Safety of Gamma, Electron and X Ray Irradiation Facilities*, IAEA Specific Safety Guide No. SSG-8,
- *Radiation Safety of Industrial Radiography*, IAEA Specific Safety Guide No. SSG-11,
- *Control of Orphan Sources and Other Radioactive Material in the Metal Recycling and Production Industries*, Specific Safety Guide, Series No. SSG-17,
- *National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources*, IAEA Specific Safety Guide No. SSG-19,
- *Management of Waste from the Use of Radioactive Material in Medicine, Industry, Agriculture, Research and Education*, IAEA Safety Guide Series No. WS-G-2.7,

Nuclear Security Series Publications
Fundamentals

- *Objective and Essential Elements of a State’s Nuclear Security Regime*, IAEA Nuclear Security Series No. 20

Recommendations

- *Nuclear Security Recommendations on Nuclear and Other Radioactive Material out of Regulatory Control*, IAEA Nuclear Security Series 15

Implementing guides

- *Nuclear Security Culture*, IAEA Nuclear Security Series 7,
- *Security in the Transport of Radioactive Material*, IAEA Nuclear Security Series 9,
- *Security of Radioactive Sources*, IAEA Nuclear Security Series 11,

NE Series, to be completed