



# General Conference

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# Measures to strengthen international cooperation in nuclear, radiation, transport and waste safety

## Resolution adopted on 21 September 2017 during the seventh plenary meeting

### The General Conference,

- (a) Recalling resolution GC(60)/RES/9 and previous General Conference resolutions on matters relating to measures to strengthen international cooperation in nuclear, radiation, transport and waste safety, and emergency preparedness and response,
- (b) Acknowledging the Agency's statutory functions with respect to safety and welcoming the activities of the Agency in establishing Safety Standards,
- (c) Recognizing the central role of the Agency in coordinating international efforts to strengthen nuclear safety globally, in providing expertise and advice in this field and in promoting nuclear safety
- (d) Recognizing that strengthening nuclear safety globally requires the resolve of Member States to continuous improvement in the pursuit of high levels of safety,
- (e) Recognizing the increasing number of countries considering or introducing nuclear power and radiation technology, and the importance of international cooperation to strengthen nuclear safety in this regard,
- (f) Recognizing the need to continue providing appropriate technical, human and financial resources for the Agency to implement its nuclear safety activities and to enable the Agency to provide, upon request, the support needed by Member States,
- (g) Recognizing that embedding and enhancing safety culture is a key element of the peaceful uses of nuclear energy, ionizing radiation and radioactive materials,

- (h) Recognizing that nuclear safety and security have the common aim of protecting people and the environment, while acknowledging the distinctions between the two areas, and affirming the importance of coordination in this regard,
- (i) Recognizing the prime responsibility of operators for nuclear safety,
- (j) Recognizing the importance of Member States establishing and maintaining effective and sustainable regulatory infrastructures,
- (k) Acknowledging that research, development and the introduction of innovative methods and technologies are of fundamental importance in improving nuclear safety worldwide,
- (l) Recalling the objectives of the Convention on Nuclear Safety (CNS), the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention), the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention) and the obligations of the respective Contracting Parties, and recognizing the need for effective and sustainable implementation of these conventions,
- (m) Recalling the objectives of the Code of Conduct on the Safety of Research Reactors and the Code of Conduct on the Safety and Security of Radioactive Sources and the supplementary Guidance on the Import and Export of Radioactive Sources and welcoming the approval by the Board of Governors of the supplementary Guidance on the Management of Disused Radioactive Sources;
- (n) Recalling that States, under international law, have the obligation to protect and preserve the environment, including the marine and terrestrial environment, and emphasizing the importance of the Secretariat's continued collaboration with the Contracting Parties of international and regional instruments aimed at protecting the environment from radioactive wastes, in particular the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Convention) and Protocol and the Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention),
- (o) Recognizing that, historically, the safety record of civilian transport, including maritime transport, of radioactive materials has been excellent, and stressing the importance of international cooperation to further enhance the safety and security of international transport,
- (p) Noting the need for the Agency to continue to keep abreast of scientific and technological innovations, including with regards to transportable nuclear power plants and small, medium, or modular reactors,
- (q) Recalling maritime and air navigation rights and freedoms, as provided for in international law and as reflected in relevant international instruments,
- (r) Recalling resolution GC(60)/RES/9 and previous resolutions that invited Member States shipping radioactive material to provide, as appropriate, assurances to potentially affected States, upon their request, that their national regulations take into account the Agency's Regulations for the Safe Transport of Radioactive Material and to provide them with relevant information relating to shipments of such material,
- (s) Recognizing the importance of communication with and outreach to the public, for the purpose of enhancing public awareness regarding nuclear safety and the effects of ionizing radiation,

- (t) Recognizing that nuclear accidents may have transboundary effects and may raise public concerns about nuclear energy and about the effects of radiation on present and future generations and the environment,
- (u) Recognizing that radiological emergencies may also raise concerns,
- (v) Emphasizing the importance of Member States and relevant international organizations responding to nuclear and radiological emergencies in a timely and effective manner,
- (w) Recognizing the importance of well-developed communication arrangements and regular public information as an important component of effective planning and preparedness for and response to nuclear accidents and radiological emergencies,
- (x) Acknowledging the Secretariat's role in response to nuclear or radiological incidents or emergencies and recognizing the need to ensure the timeliness of the collection, validation, assessment and prognosis, and dissemination by the Secretariat, in cooperation with the incident/accident State, of incident or emergency information to Member States and the public, as well as seeking effective facilitation and coordination of assistance by the Secretariat, upon request,
- (y) Emphasizing the importance of capacity building in establishing and maintaining an adequate nuclear, radiation, transport and waste safety and emergency preparedness infrastructure,
- (z) Emphasizing the importance of the development of national long-term policies and strategies for the management of spent fuel and radioactive waste,
- (aa) Recognizing the importance of self-assessment and the Agency's peer review services as effective tools for continued efforts by Member States to evaluate, maintain effective practices and further improve their respective nuclear safety,
- (bb) Recognizing that regional organizations of regulatory authorities have been strengthening regional efforts through the exchange of information and experience and technical programmes, and recognizing also the transparent cross peer reviews among the respective members of the Ibero-American Forum of Radiological and Nuclear Regulatory Agencies (FORO), the European Nuclear Safety Regulators Group (ENSREG) and the Western European Nuclear Regulators' Association (WENRA) of targeted reassessments of their nuclear power plants in the light of the Fukushima Daiichi nuclear accident, and further recognizing that such activities can be of interest to other organizations or regulatory authorities,
- (cc) Underscoring that medical uses of ionizing radiation constitute by far the largest source of artificial exposure, and emphasizing the need for enhanced efforts at national level to justify medical exposures, and to optimize radiation protection for patients and health workers,
- (dd) Recognizing the need to enhance cooperation and coordination between the Agency and the relevant organizations at the intergovernmental, national, regional and international levels on all nuclear safety-related matters,
- (ee) Emphasizing the importance of the establishment, implementation, regular exercise and continuous improvement of relevant national, bilateral, regional and international emergency preparedness and response mechanisms and arrangements, taking into account the IAEA Safety Standards and relevant action plans, and contributing to the harmonization of national protective actions,

(ff) Emphasizing the need to be prepared for remediation following a nuclear or radiological incident or accident, and the need for appropriate plans for the safe management of waste, including unusual waste forms and large volumes of waste produced during accident and following stages,

(gg) Noting the importance of decommissioning programmes and spent fuel management activities as facilities reach end of life,

(hh) Recalling United Nations General Assembly resolution A/RES/71/89 of 22 December 2016 related to the effects of atomic radiation, and the Board decision in March 1960 on health and safety measures (INFCIRC/18),

(ii) Recalling the IAEA Action Plan on Nuclear Safety's objective of establishing a global nuclear liability regime that addresses the concerns of all States that might be affected by a nuclear accident with a view to providing appropriate compensation for nuclear damage,

(jj) Recalling the Paris Convention on Third Party Liability in the Field of Nuclear Energy, the Vienna Convention on Civil Liability for Nuclear Damage, the Brussels Convention supplementary to the Paris Convention, the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention, the protocols amending the Brussels, Paris and Vienna Conventions, and the Convention on Supplementary Compensation for Nuclear Damage (CSC) and noting that these instruments can provide the basis for establishing a global nuclear liability regime based on the principles of nuclear liability,

(kk) Stressing the importance of having in place effective and coherent nuclear liability mechanisms at the national and global levels to ensure prompt, adequate and non-discriminatory compensation for damage to — inter alia — people, property and the environment, including actual economic loss due to a nuclear accident or incident, recognizing that principles of nuclear liability, including strict liability, should apply as appropriate in the event of a nuclear accident or incident, including during the transport of radioactive material, and noting that the principles of nuclear liability can benefit from the advances contained in the 1997 and 2004 instruments concerning broader definition of nuclear damage, expanded jurisdiction over nuclear incidents and increased compensation, and from recommendations made by the International Expert Group on Nuclear Liability (INLEX), to provide better protection to victims of nuclear damage, and

(ll) Recalling the central role of the IAEA in promoting adherence to all international nuclear safety conventions concluded under its auspices and recognizing the importance of coordination with the OECD Nuclear Energy Agency (NEA), when appropriate, with respect to conventions concluded under their auspices related to civil nuclear liability,

## **1. General**

1. Urges the Agency to continue to strengthen its efforts to maintain and improve nuclear, radiation, transport and waste safety and emergency preparedness and response capabilities;

2. Encourages Member States, particularly those considering introducing nuclear power, radiation technology or engaging in international nuclear cooperation, to maintain and improve their nuclear safety and safety infrastructure and encourages other Member States in a position to do so to assist them in this regard;

3. Requests the Secretariat to continue to assist Member States, particularly those considering introducing nuclear power or radiation technology, upon request, in developing, utilizing and

improving their national infrastructure, including legislative and regulatory frameworks, scientific and technical capabilities and knowledge management practices and procedures;

4. Requests that the Agency continues to build upon the IAEA Action Plan on Nuclear Safety and the experience of its implementation by Member States, the IAEA Report on the Fukushima Daiichi nuclear power plant accident, and the Vienna Declaration on Nuclear Safety on Principles for the Implementation of the Objective of the CNS to Prevent Accidents and Mitigate Radiological Consequences, and uses them for defining its nuclear safety strategy and programme of work, including priorities and milestones, timelines and performance indicators, and requests that the Secretariat continues to report periodically in this regard in the lead up to the March Board of Governors and the General Conference;
5. Encourages Member States to continue to enhance safety culture at all levels in their nuclear and radiation activities, and to continue to exchange information and share experiences on the effectiveness of safety culture approaches, through bilateral, multilateral and other channels;
6. Requests the Secretariat to promote safety culture, and to support Member States, upon request, in developing safety culture programmes and in assessing and improving safety culture at all levels,
7. Encourages the Agency to continue efforts on regulatory body oversight of licensee safety culture and on practices to promote and sustain the regulatory body's own safety culture;
8. Requests the Secretariat, in consultation with Member States, to consider means to enhance institutional strength in depth;
9. Requests the Secretariat, while recognizing the distinction between nuclear safety and nuclear security, to continue facilitating in close cooperation with Member States a coordination process to address their interfaces in a timely manner, and encourages the Agency to develop safety and security publications, ensure consistency and to foster culture accordingly;
10. Encourages the Secretariat to coordinate its programmatic activities in safety with other relevant activities of the Agency, and to ensure consistency of safety aspects of relevant IAEA publications, in particular in uranium mining and remediation;
11. Urges Member States receiving assistance from the Agency to update information in the IAEA Radiation Safety Information Management System (RASIMS) so as to enable the Secretariat to identify the technical assistance needed to strengthen radiation safety infrastructure;
12. Welcomes the establishment of regional safety fora and related networks, requests the Secretariat to continue assisting such fora and networks, and encourages Member States to join relevant regional safety fora and networks, and to participate and work in cooperation with other members so that the benefits of membership can be fully realized;
13. Requests the Secretariat to strengthen its cooperation with the regional regulatory organizations FORO and ENSREG in areas of mutual interest, and further requests the Secretariat to promote wide dissemination of technical documents and outcomes of projects developed by these organizations, including the outcomes of the XXII FORO Plenary on the occasion of its 20th Anniversary (Buenos Aires, 5-6 July 2017);
14. Encourages Member States to continue sharing safety-relevant findings and lessons learned among regulators, technical and scientific support organizations, operators and industry, as appropriate with the assistance of the Secretariat;
15. Encourages Member States to continue to communicate effectively to interested parties, including to their general public, about regulatory processes and safety aspects, including health

effects, and environmental aspects of facilities and activities, on the basis of scientific data as available, and encourages Member States to provide for consultation with their public as appropriate;

16. Requests the Secretariat, in collaboration with Member States, to identify actions to improve regulatory effectiveness, taking into account the conclusions of the report of the President of the 2016 International Conference on Effective Nuclear Regulatory Systems;

17. Encourages the Secretariat and Member States to continue to make effective use of the Agency's technical cooperation resources for the further enhancement of safety;

18. Encourages Member States to exercise effective supply chain management and to increase efforts in detecting non-conforming counterfeit, suspect or fraudulent items received from suppliers and prevent them from being installed in the facilities,

## 2.

### **Conventions, Regulatory Frameworks and Supporting Non-Legally-Binding Instruments for Safety**

19. Urges all Member States that have not yet done so, especially those planning, constructing, commissioning or operating nuclear power plants, or considering a nuclear power programme, to become Contracting Parties to the CNS;

20. Stresses the importance of CNS Contracting Parties fulfilling the obligations stemming from the Convention and reflecting these in their actions to strengthen nuclear safety and in particular when preparing National Reports, and actively participating in peer reviews for CNS Review Meetings;

21. Urges all Member States that have not yet done so, including those managing radioactive waste from the use of radioactive sources and nuclear energy, to become Contracting Parties to the Joint Convention;

22. Stresses the importance of Joint Convention Contracting Parties fulfilling the obligations stemming from the Convention and actively participating in peer reviews for the 6<sup>th</sup> Review Meeting in 2018;

23. Requests the Secretariat to provide full support for the dissemination of the outcomes of the 6<sup>th</sup> Joint Convention Review Meeting, and to consider addressing these in the Agency's activities, as appropriate and in consultation with Member States;

24. Urges all Member States that have not yet done so to become Contracting Parties to the Early Notification Convention and the Assistance Convention, and stresses the importance of Contracting Parties fulfilling the obligations stemming from these Conventions, and actively participating in regular meetings of the Representatives of Competent Authorities;

25. Requests the Secretariat, in collaboration with regional and international organizations and Member States, to continue its activities to promote the importance of conventions concluded under the auspices of the IAEA, and to assist Member States, upon request, with adherence and participation;

26. Welcomes the approval by the Board of Governors of the supplementary Guidance on the Management of Disused Radioactive Sources to the Code of Conduct on the Safety and Security of Radioactive Sources, and endorses the Guidance while recognizing it is not legally binding;

27. Calls on all Member States to make a political commitment to implement the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary Guidance on the Import and Export of Radioactive Sources and its supplementary Guidance on the Management of Disused

Radioactive Sources, further calls on all Member States to act in accordance with the Code and the Guidance, and requests the Secretariat to continue supporting Member States in this regard;

28. Urges Member States with research reactors to apply the guidance of the Code of Conduct on the Safety of Research Reactors;

29. Urges Member States that have not already done so to establish and sustain a regulatory body that is effectively independent in its regulatory decision-making, competent, and has the legal authority, and the appropriate human, financial and technical resources organized as necessary for fulfilling its responsibilities, and encourages Member States, who have not already done so, to take the appropriate steps to ensure an effective separation between the functions of the regulatory body and those of any other body or organization concerned with the promotion or utilization of nuclear energy;

30. Urges Member States to strengthen regulatory effectiveness in the field of nuclear, radiation, transport and waste safety, and emergency preparedness and response, and to continue promoting cooperation and coordination among regulatory bodies within a Member State, as appropriate, and among Member States;

31. Encourages Member States to continue to enhance their national regulatory inspection programmes, including, as appropriate, by applying a risk-informed, performance-based and graded approach;

32. Encourages Member States to consider establishing technical and scientific support organizations (TSOs), as appropriate, and requests the Secretariat to promote cooperation between Member States and to assist, upon request, in this regard;

33. Urges Member States to establish or maintain systematic and robust regulatory decision-making processes that take into account scientific knowledge and expertise, including, where appropriate, from TSOs and other relevant institutions;

34. Takes note of the valuable contribution of the International Nuclear Safety Group (INSAG) to the overall IAEA activities aimed at strengthening nuclear safety, and encourages the INSAG Chairperson to continue to communicate to Member States on a regular basis about major outcomes and recommendations of INSAG to the Director General;

35. Encourages Member States to work towards establishing a global nuclear liability regime and, as appropriate, to give due consideration to the possibility of joining the international nuclear liability instruments;

36. Requests the Secretariat, in coordination with the OECD/NEA when appropriate, to assist Member States, upon request, in their efforts to adhere to any international nuclear liability instruments concluded under the auspices of the IAEA and the OECD/NEA, taking into account the recommendations of the INLEX in response to the IAEA Action Plan on Nuclear Safety;

37. Recognizes the valuable work of INLEX, and takes note of its recommendations and best practices on establishing a global nuclear liability regime, including through the identification of actions to address gaps in and enhance the existing nuclear liability regimes, encourages the continuation of INLEX, especially for its support for the IAEA's outreach activities to facilitate the achievement of a global nuclear liability regime, and requests the Secretariat to report on the continuing work of INLEX;

38. Requests that INLEX, via the Secretariat, and in light of the practice established by INSAG, informs Member States on a regular basis about the work of INLEX and its recommendations to the Director General;

39. Requests that INLEX, via the Secretariat, shares the existing recommendations made by INLEX regarding insurance or other financial security for at least Categories 1 and 2 sources, and encourages Member States, as appropriate, to take these into consideration;

### 3.

#### **IAEA Safety Standards Programme**

40. Encourages Member States to implement measures nationally, regionally and internationally to ensure nuclear, radiation, transport and waste safety, as well as emergency preparedness and response, taking into account IAEA Safety Standards;

41. Encourages Member States to use the IAEA Safety Standards in their national regulatory programmes, as appropriate, and to periodically review national legislation, regulations and guidance against IAEA Safety Standards and report on progress in appropriate international fora;

42. Requests the Agency to continue to support the work of the Commission on Safety Standards (CSS) and the Safety Standards Committees;

43. Requests further efforts of the Secretariat to enable representatives of all Member States, including those considering introducing nuclear power or radiation technology, to participate in the work of the Commission and Committees;

44. Requests the Agency to continuously review, strengthen, promulgate and implement as broadly and effectively as possible the IAEA Safety Standards;

45. Encourages the Agency to keep up to date with scientific and technological innovations, to enhance its technical capabilities accordingly and to strengthen IAEA Safety Standards as appropriate;

46. Requests the Secretariat to further enhance the Nuclear Safety and Security Series Online User Interface (NSS-OUI), for navigation through and optimization of the process for the revision of the IAEA Safety Standards;

47. Requests the Secretariat to continue its close cooperation with the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the International Commission on Radiological Protection (ICRP) and other relevant organizations in the development of IAEA Safety Standards;

### 4.

#### **Self-assessments and the Agency's Peer Review and Advisory Services**

48. Encourages Member States to ensure regular self-assessments of their domestic nuclear, radiation, transport and waste safety, as well as emergency preparedness and response, taking into account the Agency's self-assessment tools and, on a voluntary basis, to make the outcomes publicly available;

49. Further encourages Member States, including those considering introducing nuclear power, on a voluntary basis, to regularly use advisory services, and to host Agency peer review and associated follow-up missions, at appropriate phases of a nuclear power programme, to make findings publicly available and to implement recommended actions in a timely manner;

50. Encourages Member States in a position to do so to continue making the necessary expertise available to the Secretariat for IAEA safety peer reviews and advisory services;

51. Requests that the Secretariat continues to provide for and promote the regular interaction of the Peer Review and Advisory Services Committee with Member States and, in close consultation and

coordination with Member States, continues to assess and strengthen the overall structure, effectiveness and efficiency of services within the purview of the Committee, and to report to the Board of Governors on the outcomes of this common effort;

## 5.

### **Nuclear Installation Safety**

52. Recalls the outcomes of the 7th Review Meeting of the Contracting Parties to the CNS, including the actions agreed to strengthen the participation in and effectiveness and transparency of the Convention, the major common issues and good practices and areas of good performance identified by the President and the country groups and the challenges identified for Contracting Parties, further recalls the adoption by consensus of the Vienna Declaration on Nuclear Safety at the CNS Diplomatic Conference of February 2015, and encourages all Member States to contribute to the realization of its principles including through the implementation of the relevant provisions of this Resolution;

53. Requests the Secretariat, in consultation with Member States, to facilitate information exchange between interested Member States, including through a Technical Meeting, to share experience on implementing safety improvements at existing nuclear power plants;

54. Renews the request to the Secretariat, in consultation with all Member States, using the safety issues highlighted in the summary report of the 6th Review Meeting of the Contracting Parties of the CNS, to identify issues of particular relevance for civilian nuclear reactors not covered by the scope of the CNS;

55. Calls upon all Member States with nuclear installations that have not yet done so to establish effective operational experience feedback programmes including identifying safety-related precursors, and to share freely their experience, assessments and lessons learned, including through the submission of incident reports to the Agency's web-based reporting systems related to operational experience;

56. Encourages Member States that are constructing new nuclear power plants to share with other Member States, on a voluntary basis, their safety-relevant construction and commissioning experiences, and to benefit from, as appropriate, interaction within international organizations and fora such as the OECD/NEA and the World Association of Nuclear Operators (WANO);

57. Requests the Secretariat to continue efforts in the area of ageing management for the long-term safe operation of nuclear power plants and research reactors, and to support Member States, upon request, in establishing ageing management programmes, including the identification and implementation of reasonably practicable safety improvements and the definition of technical assessment and regulatory requirements supporting decisions on continued operation;

58. Renews its calls upon Member States to ensure that comprehensive and systematic safety assessments are carried out periodically and regularly for existing installations throughout their lifetime in order to identify safety improvements that are oriented to meet the objective of preventing accidents with radiological consequences and mitigating such consequences should they occur, and that reasonably practicable or achievable safety improvements are implemented in a timely manner;

59. Encourages Member States that have not already done so to perform safety assessments, including at multi-unit sites, to evaluate the robustness of nuclear power plants and other installations against multiple extreme events, and share their experience and the results of such assessments with other interested Member States;

60. Requests the Secretariat to continue efforts to develop guidance on the safety of multi-unit sites;

61. Further encourages Member States to exchange regulatory information and share experiences with regard to new nuclear power plants, taking into account that new nuclear power plants are to be designed, sited, and constructed consistent with the objective of preventing accidents in the commissioning and operation and, should an accident occur, mitigating possible releases of radionuclides causing long-term off-site contamination and avoiding early radioactive releases or radioactive releases large enough to require long-term protective measures and actions;
62. Encourages the Secretariat to provide for the exchange of information and experience of conducting the safety assessment of the digital Instrumentation and Control system;
63. Encourages the Agency to facilitate the exchange of results of research and development on severe accident management strategies for nuclear power plants;
64. Encourages Member States to develop as necessary and implement severe accident management guidelines in line with operational experience feedback, as well as the lessons learned from the Fukushima Daiichi Nuclear Power Station accident, and requests the Secretariat to support their efforts through training workshops;
65. Recognizing that there are ongoing projects to construct and deploy transportable nuclear power plants and small, medium, or modular reactors, and noting that these installations should be developed and operated pursuant to the existing safety frameworks for nuclear power plants, requests the Agency to continue considering the safety and security aspects of transportable nuclear power plants and small, medium or modular reactors throughout their life cycle, including through the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) and, to this end, to draw upon the knowledge and experience of other international organizations, takes note of the meetings and other activities the Agency has undertaken so far in defining the attributes of transportable nuclear power plants and small, medium, or modular reactors that differ from conventional reactors, as well as identifying, understanding and addressing key regulatory challenges related to their lifecycles, and renews its request to the Agency to continue to organize meetings and activities on transportable nuclear power plants and small, medium, or modular reactors, with a view to using their findings to consider, under the common existing requirements and legal instruments, the various safety aspects of such power plants, including their transport;

## 6.

### **Radiation Safety and Environmental Protection**

66. Encourages Member States to align their national radiation protection programmes to the revised International Basic Safety Standards (GSR Part 3), and requests the Secretariat to support its effective implementation, in relation to occupational, public and medical exposure, as well as protection of the environment, and further requests the Secretariat to continue to organize national workshops on implementing GSR Part 3, upon request;
67. Invites Member States operating nuclear power plants and those considering introducing nuclear power, to encourage their utilities and authorities to become members of the IAEA-OECD/NEA Information System on Occupational Exposure (ISOE) programme, and requests the Secretariat to assist in this regard and to continue supporting the ISOE programme;
68. Requests the Secretariat to promote the Information System on Occupational Exposure in Medicine, Industry and Research (ISEMIR) programme to facilitate the implementation of as low as reasonably achievable (ALARA) practices and effective exposure control, and recommends that Member States provide data on occupational exposure to the ISEMIR programme;

69. Requests the Secretariat to make recommendations and assist Member States, upon request, to enhance radiation safety of workers by utilising efficient and effective dosimetry techniques;
70. Requests the Secretariat to continue to follow up on the actions identified by the 2014 IAEA International Conference on Occupational Radiation Protection, in consultation with Member States;
71. Encourages Member States to share their approaches towards education and training of radiation protection officers to facilitate bilateral, regional and international cooperation in this regard;
72. Requests the Secretariat to assist Member States, upon request, to strengthen their capabilities for the realistic assessment of radiological impacts of material containing enhanced levels of naturally occurring radioactive materials (NORM);
73. Encourages Member States to share safety-relevant experiences and practices in the field of handling NORM and NORM residues;
74. Requests the Agency, in coordination with other international organizations, to continue implementation of the *Bonn Call for Action*, to strengthen the radiation protection of patients and health workers and to enhance the safety of radiological procedures;
75. Encourages the Secretariat, in cooperation with the World Health Organization (WHO), to continue to develop guidance on the radiation protection principles of justification of medical exposure, in terms of procedure and for individual patients, and optimization of protection and safety in the medical field, including education and training on radiation protection for health professionals, and documenting the individual radiation procedure histories of patients;
76. Requests the Secretariat to promote regional technical cooperation projects on medical exposure and encourages Member States to use safety reporting and learning systems developed by the Agency for radiological procedures and radiotherapy;
77. Requests the Secretariat to promote the implementation of forthcoming radiation protection guidance for the regulatory control of the use of human imaging techniques for non-medical purposes;
78. Encourages Member States to assess the extent of public exposure to radon in homes, schools and other buildings, and where relevant, to take appropriate actions to reduce exposure, and requests the Secretariat, in cooperation with Member States, the WHO and other relevant international organizations, to assist Member States in this regard;
79. Requests the Secretariat to develop principles for harmonized guidance on radionuclide activity concentration values in food and drinking water, in continued cooperation with relevant international organizations and national authorities;
80. Requests the Secretariat to continue work to develop a technical document to set out radionuclide activity concentration values for contaminated non-food commodities, in consultation with Member States and relevant international organizations;
81. Encourages the participation of Member States in the second phase of the Modelling and Data for Radiological Impact Assessments (MODARIA II) programme;
82. Requests the Secretariat to develop specific technical documents on the application of the radiation protection principles of justification and optimization in existing exposure situations;
83. Supports the Secretariat's development of updates pertinent to the "Inventory of Radioactive Materials Resulting from Historical Dumping, Accidents and Losses at Sea (For the Purposes of the London Convention 1972 and Protocol 1996)";

84. Requests the Secretariat to update its guidance on the application of the principles of exclusion, exemption and clearance;

85. Requests the Secretariat to revise guidance on the safe uses of radiotracers and to assist Member States upon request;

## 7.

### **Transport Safety**

86. Urges Member States that do not have national regulatory documents governing the safe transport of radioactive material to adopt and implement such documents expeditiously, calls upon all Member States to ensure that such regulatory documents are in conformity with the applicable edition of the IAEA's Regulations for Safe Transport of Radioactive Material, welcomes the ongoing revision of the Regulations to ensure that they remain relevant and up-to-date, and requests the Secretariat to finalize the ongoing update of document GOV/1998/17, entitled "*Safety of transport of radioactive material*";

87. Welcomes the practice of some shipping States and operators of providing timely information and responses to relevant coastal States in advance of shipments in order to address concerns regarding nuclear safety and security, including emergency preparedness, and notes that the information and responses provided should in no case be contradictory to measures of nuclear security and safety of the shipment or of the shipping State;

88. Recalls the issuing of the Best Practices for Voluntary and Confidential Government to Government Communications on the Transport of MOX Fuel, High Level Radioactive Waste and, as appropriate, Irradiated Nuclear Fuel by Sea (INFCIRC/863) in 2014;

89. Calls upon Member States to further enhance mutual confidence, such as through the use of guidelines, voluntary communication practices and tabletop exercises, such as the Tabletop Exercise of the Dialogue of Coastal and Shipping States held on 28 June 2017, which was recognized as a success by its participants, takes note of the useful lessons learned during the Exercise, and requests the Secretariat to provide appropriate support to interested Member States upon their request;

90. Recognizes that the dialogue process between coastal and shipping States has improved mutual understanding, confidence-building and enhanced communication in relation to the safe maritime transport of radioactive material and encourages the continuation of this positive dialogue and takes note of the visit by participants to the dialogue process to a transport ship in the United Kingdom, held on 12–13 July 2016, which contributed to the dialogue process by helping the participants deepen their understanding on the stringent safety measures in place for the maritime transport of radioactive material;

91. Takes note that relevant coastal and shipping States invite other Member States to join in the informal dialogue process between coastal and shipping States to improve mutual understanding and confidence regarding shipments of radioactive material and to implement as appropriate, the best practices as contained in document INFCIRC/863, subject to confidentiality and security constraints;

92. Stresses the importance of having effective liability mechanisms in place to ensure prompt compensation for damage incurred during the transport of radioactive material, including maritime transport, and in this context notes the application of the principles of nuclear liability, including strict liability;

93. Calls upon Member States and their regulatory authorities to use the GNSSN and relevant regional networks to build capacity for effective regulation of the safe transport of radioactive material;

94. Encourages efforts to avoid and address problems related to denials of and delays in the shipment of radioactive material, particularly shipment by air and calls upon Member States to facilitate the transport of radioactive material, and to identify, if they have not done so, a national focal point on denials on shipment of radioactive materials to achieve a satisfactory and timely resolution of this issue;

95. Encourages the Agency to continue to strengthen and widen efforts to make available relevant education and training on the safety of radioactive material during transport, including through the Technical Cooperation Programme (TCP) and through the development of synergies between regional training courses and the Agency's work related to denials of shipment, involving to the extent possible experts from the regions concerned, and acknowledges the progress made in that regard, including the preparation and translation of training materials into IAEA official languages;

## 8.

### **The Safety of Spent Fuel and Radioactive Waste Management**

96. Encourages Member States to plan and develop solutions for the safe management of radioactive waste and spent fuel and, where appropriate, to share experiences and lessons learned in this regard, and put mechanisms in place to ensure resources are available for implementation;

97. Requests the Secretariat, in close cooperation with Member States, to follow up on the outcomes of the IAEA International Conference on the Safety of Radioactive Waste Management, held in Vienna in 2016;

98. Encourages the Agency to continue its activities relating to the safety of facilities for the geological disposal of radioactive waste and, where appropriate, spent nuclear fuel, requests the Secretariat to undertake the further development of guidance on safety of geological disposal facilities, which encourages early engagement of the regulatory bodies in the period before the formal licensing process is launched and through all stages of the life cycle, and encourages Member States to share lessons about their relevant regulatory experiences;

99. Requests the Secretariat to foster information exchange on safety-related aspects of long-term storage of spent nuclear fuel and radioactive waste;

100. Encourages Member States to plan for the management of waste arising from a nuclear or radiological emergency, including waste from damaged facilities, and/or fuel where routine strategies are impractical or less than optimal, and where the potential exists for large volumes of radioactive waste resulting from the emergency and/or environmental remediation;

## 9.

### **Safety in Uranium Mining and Processing, Decommissioning and Environmental Remediation**

101. Encourages the Agency to share, as appropriate, the lessons learned from decommissioning and remediation activities, and to support initiatives in international cooperation;

102. Requests the Secretariat, in close cooperation with Member States, to continue the follow up on the outcomes of the IAEA International Conference on Advancing the Global Implementation of Decommissioning and Environmental Remediation Programmes, held in Madrid in 2016;

103. Encourages Member States to plan for the decommissioning of facilities during the facility design phase, and update as appropriate, and to put mechanisms in place to ensure resources are available for implementation;

104. Requests the Secretariat to assist Member States, upon request, in the safe management of radioactive residues from uranium production and other activities involving NORM;

105. Recognizes the crucial role of planning for post-accident situations, and requests the Agency to continue to strengthen its guidance on remediation and waste management after a radiological or nuclear accident to assist Member States in facilitating the return of affected areas to safe conditions;

106. Requests the Secretariat to continue supporting efforts relating to technical coordination for multilateral initiatives to remediate legacy uranium production sites, notably in Central Asia, through the Coordination Group for Uranium Legacy Sites, and encourages the Secretariat to consult relevant Member States in Africa, upon request, with a view to implementing similar initiatives;

107. Requests the Agency to continue implementing activities through the International Working Forum on Regulatory Supervision of Legacy Sites;

## **10. Capacity-building**

108. Encourages Member States to develop national strategies for capacity-building in nuclear safety including through education and training, human resource development, knowledge management and knowledge networks and further encourages Member States to ensure that resources are made available for capacity building of this kind;

109. Requests the Secretariat to strengthen and expand its programme of education and training activities, focusing on building institutional, technical and managerial capabilities in Member States, to support Member States' efforts to identify and implement knowledge management measures, and to continue efforts to preserve its own knowledge and institutional memory relating to nuclear safety, to mitigate loss of experience;

110. Requests the Secretariat to support and coordinate regional and inter-regional efforts for the sharing of knowledge, expertise and experience on safety-relevant issues, and to continue to strengthen its effort in maintaining and developing the Global Nuclear Safety and Security Network (GNSSN), including the development of the knowledge platforms, and encourages Member States to actively participate in the GNSSN;

111. Encourages Member States to benefit, as appropriate, from the IAEA Systematic Approach to Training (SAT) and other relevant tools for the self-assessment of capacity building programmes at national and organizational level;

## **11. Safe Management of Radioactive Sources**

112. Calls upon all Member States to ensure that their legislative or regulatory framework includes specific provisions for the safe management of radioactive sources through all stages of the life cycle;

113. Calls upon all Member States to ensure that there is adequate provision, including financial arrangements, as appropriate, for safe and secure storage and disposition pathways for disused sources so that such sources within their territories remain under regulatory control, and encourages all Member States to develop arrangements, as practicable, to permit the return of disused sources to the supplier States or consider other options including the reuse or recycling or disposal of sources wherever possible;

114. Encourages the Secretariat and Member States to strengthen national and multinational efforts to recover orphan sources and maintain control of disused sources, and invites Member States to establish radiation detection systems, including at international borders, as appropriate;

115. Calls upon all Member States to establish and maintain national registers of high-activity sealed radioactive sources;

116. Requests the Secretariat to disseminate the outcomes of the 2017 Open-ended Meeting of Legal and Technical Experts for Sharing of Information on States' Implementation of the Code of Conduct on the Safety and Security of Radioactive Sources;

117. Requests the Secretariat to continue to foster information exchange on implementation of the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary Guidance on the Import and Export of Radioactive Sources and on the Management of Disused Radioactive Sources;

118. Requests the Secretariat to further facilitate, as appropriate, information exchange between interested Member States on radiation safety aspects of the management of movement of scrap metal or materials produced from scrap metal that may inadvertently contain radioactive material;

## 12.

### **Nuclear and Radiological Incident and Emergency Preparedness and Response**

119. Encourages Member States to develop and strengthen national, bilateral, regional and international emergency preparedness and response mechanisms and arrangements, including protective measures; to cooperate closely on precautionary measures to minimize long-term consequences, as appropriate; to facilitate timely information exchange during a nuclear or radiological emergency; and to continue to improve bilateral, regional and international cooperation among national experts, competent authorities and regulators to that effect, including through the organization of joint training exercises, as appropriate;

120. Requests the Secretariat, in close cooperation and upon consultation with Member States and appropriate relevant international organizations, to continue a programme of exercises to ensure the effectiveness of the national, regional and international emergency preparedness and response continues to be enhanced;

121. Requests the Secretariat to work with Member States to refine arrangements for assessment, prognosis and communication, including arrangements for the timely sharing of relevant technical parameters, while making effective use of Member States' capabilities, and continuing to refine the role of the Incident and Emergency Centre (IEC), during an emergency;

122. Encourages Member States to inform and periodically update the Secretariat and other Member States of their capabilities, and to assist the IEC during an emergency;

123. Encourages Member States to establish and maintain effective communication channels between the responsible national authorities at all times, to ensure respective responsibilities are clear and to improve coordination and decision-making process for all types of accident scenarios;

124. Requests the Secretariat to work with Member States to improve the IAEA Response and Assistance Network (RANET) to ensure that, if and when requested, timely and effective assistance can be provided, further requests the Secretariat to work with Member States to facilitate, as appropriate, bilateral and multilateral arrangements, and to enhance efforts to establish technical compatibility for international assistance, and encourages Member States to register national capabilities in as many fields as possible in RANET;

125. Requests the Secretariat to provide support to the States Parties to the Assistance Convention and the Early Notification Convention to strengthen technical and administrative procedures that enhance the implementation of both conventions effectively;

126. Requests the Secretariat, in close cooperation with Member States, to continue to develop an effective public communication strategy and to maintain and further develop arrangements to provide Member States, international organizations and the general public with timely, clear, factually correct, objective and easily understandable information during a nuclear or radiological emergency, including the analysis of available information and the prognosis of potential consequences;

127. Encourages Member States to continue discussions on the effectiveness of Emergency Preparedness Review (EPREV) missions and further encourages interested Member States to invite EPREV or EPREV follow-up missions on a voluntary basis;

128. Requests the Secretariat to continue to cooperate with Member States and the WHO to ensure that the IAEA's EPREV service coordinates with the WHO's Joint External Evaluations for the International Health Regulations in the area of radiation emergencies;

129. Encourages the Secretariat to continue utilizing the International Radiation Monitoring Information System (IRMIS), to work with national contact points towards a public version of the system in a timely manner, and further encourages Member States in a position to do so to provide data to the system;

130. Encourages Member States to consider providing information to the Emergency Preparedness and Response Information Management System (EPRIMS) and encourages the Secretariat to promote the benefits of EPRIMS to Member States;

131. Requests the Secretariat to review the arrangements for reporting nuclear incidents and accidents with a view to enhancing their effectiveness;

132. Requests the Secretariat, in coordination and consultation with Member States, to continue to strengthen cooperation with other relevant international organizations in the area of emergency preparedness, including through the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE);

### **13.**

#### **Implementation and Reporting**

133. Requests the Secretariat to implement the actions called for in this resolution in a prioritized, efficient manner within available resources; and

134. Requests the Director General to report in detail at the sixty-second (2018) regular session of the General Conference on implementation of this resolution, and on other relevant developments in the intervening period.