

Input to 2018 SG report on oceans and the law of the sea (RES 72/73)

Second part

Executive Summary

The International Atomic Energy Agency (IAEA) continues to provide support to its Member States to inter alia, develop and improve relevant nuclear and isotope-based tools and techniques to monitor and protect the coastal and marine environment. The IAEA also provides guidance on the safe management of radioactive and non-radioactive materials released into the marine environment, on the sustainable use of coastal and marine resources, and on the protection of the public, including the maritime workforce.

The safety guides on *Regulatory Control of Radioactive Discharges to the Environment* (IAEA Safety Guide GSG-9) and *Prospective Radiological Environmental Impact Assessment for Activities and Facilities* (IAEA Safety Guide GSG-10), prepared by the IAEA Secretariat in cooperation with its Member States, have been formally endorsed in 2018 by the United Nations Environment Programme (UNEP), which represents a promotion of a coherent implementation of the environmental dimension of sustainable development within the United Nations system.

Since the last report to date, the Ocean Acidification-International Coordination Centre (OA-ICC), hosted by the IAEA, co-organized the 4th International Workshop on the Socio-Economic Effects of Ocean Acidification, as well as the first Ocean Acidification international Reference User Group (OA-iRUG) regional meeting, bringing together world ocean acidification experts from around the globe.

Through the "Modelling and Data for Radiological Impact Assessments" programme MODARIA II" the IAEA continued to help Member States to improve their scientific knowledge and capabilities for the assessment of the level of protection against the exposure to ionizing radiation associated with authorized radionuclide releases, disposal of radioactive waste, and from contamination resulting from past unregulated practices or accidents. The second Technical Meeting of MODARIA II was held in 2017 with the participation of 133 experts from 39 IAEA Member States. A third Technical Meeting will be held at the IAEA headquarters in Vienna during 2018.

The IAEA Environment Laboratories implement activities, improve knowledge, and develop methods to assist Member States laboratories and Regional Seas Conventions to accurately monitor the behaviour of radionuclides, organic contaminants (including Persistent Organic Pollutants), hazardous trace elements, such as mercury, and marine biotoxins (Harmful Algal Blooms-HABs), and to mitigate their impacts. Monitoring concentrations of these contaminants in environmental matrices and biota helps Member States enhance knowledge on biomagnification in marine organisms, seafood safety, coastal and marine pollution, and the oceanic carbon cycle, particularly in the context of future climate change scenarios. Such work benefits Member States fulfil their obligations in the framework of Global Conventions, such as the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury, as well as for the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

Furthermore, the IAEA Environment Laboratories provide analytical quality control services to Member States through the production of Certified Reference Materials, the organisation of inter-laboratory comparison studies and Proficiency Tests. The IAEA assists its Member States in building quality-assured global databases on radionuclides and hazardous contaminants in diverse marine samples, which is essential information for accurately assessing pollution status and trends in the coastal and marine environment, as well as facilitating the comparability of similar data world-wide.

The Helsinki Commission and Oslo-Paris Convention Contracting Parties are being provided analytical data quality support through annual proficiency tests for radionuclides in seawater samples. Marine radioactivity monitoring data from these two regional conventions are made available through the Agency's on-line MARiS database.

Since 2012, the IAEA Environment Laboratories in Monaco have been hosting the Ocean Acidification-International Coordination Centre (OA-ICC), supported through the IAEA Peaceful Uses Initiative (PUI). The OA-ICC facilitates, promotes and communicates global efforts on ocean acidification, including targeted research activities. Each year, the OA-ICC co-organizes or participates in a series of high-level symposia or events, such as most recently, the COP23, the 4th International Workshop on the Socio-Economic Effects of Ocean Acidification, the UN Ocean Conference, and the Ocean Acidification international Reference User Group (OA-iRUG) meeting, bringing together ocean acidification experts from around the globe.

§§183, 200, 203, 204 and 221 of resolution 72/73

The IAEA continued contributing towards the protection of people and the environment — including but not limited to the marine environment — against the risk of exposure to ionizing radiation from the operation of nuclear installations and the disposal of radioactive waste. This contribution by the IAEA comprises providing safety guidance for the regulatory control of the releases of radioactive effluents into the marine environment, for the environmental monitoring and surveillance of nuclear facilities and for the assessment of radiological impacts on members of the public and the marine flora and fauna. To ensure the transparent application of international safety guidance, the IAEA also develops, in cooperation with its Member States, methodologies and procedures for the needed quantification and control of the radiation risk. Through all these activities, the IAEA helps to ensure a sustainable use of the marine environment and its resources.

The safety guides on Regulatory Control of Radioactive Discharges to the Environment (IAEA Safety Guide GSG-9) and Prospective Radiological Environmental Impact Assessment for Activities and Facilities (IAEA Safety Guide GSG-10), prepared by the IAEA Secretariat in cooperation with its Member States, have been formally endorsed in 2018 by the United Nations Environment Programme (UNEP), which represents a promotion of a coherent implementation of the environmental dimension of sustainable development within the United Nations system. These safety guides, endorsed in 2016 by the IAEA Commission on Safety Standards, include methodologies for the assessment and control of the impact on humans, flora and fauna, as well as the use of relevant criteria for management options for radioactive releases into terrestrial or marine environments.

The IAEA continues its cooperation with the International Maritime Organization (IMO) and the contracting parties of various international and regional conventions related to the prevention of pollution and the sustainable use of the marine environment and its resources, such as; the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 and its corresponding Protocol (the 'London Convention' and the 'Protocol'), the Convention for the Protection of the Marine Environment of the North-East Atlantic (the 'OSPAR Convention'), and the Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships (the 'Hong Kong Convention').

The IAEA's methodology to derive environmental criteria for the assessment of marine water quality within the North-East Atlantic was agreed upon by the OSPAR Commission³ as one of the assessment tools applicable within the framework of the OSPAR Convention. The derivation of these criteria by the IAEA is based on considerations of potential radiation doses to marine flora and fauna and to

members of the public, taking account of the consumption of seafood and human activities in coastal areas.

Currently the IAEA is assisting the Radioactive Substances Committee of the OSPAR Convention in the definition and application of the concept of 'close to zero' concentration of artificial radionuclides in the marine environment. The work of the IAEA in cooperation with the OSPAR Convention aims to prevent and eliminate pollution of the marine environment, protect the maritime area against adverse effects on human health and the marine ecosystem and, where practicable, restore marine areas affected.

Under the process for review of the resolution banning the dumping of radioactive materials into the oceans (which has been in place since 1994 and is reviewed every 25 years), and in its role as an international competent body in matters related to radioactive materials, the IAEA closely follows the discussions and developments in the Scientific Group of the London Convention and Protocol. Furthermore, with the aim of better informing the discussions among the Contracting Parties to the London Convention and Protocol, the IAEA produced a report noting that the dumping of radioactive materials as it was done in the past is no longer acceptable, taking into consideration current international safety standards applicable to the disposal of radioactive waste (London Convention document LC 38-10).

§§192, 196 and 241 of resolution 72/73

The "Modelling and Data for Radiological Impact Assessments II" (MODARIA II), launched in 2016, continues to provide an international forum to exchange ideas and research information to help Member States to improve their scientific knowledge and capabilities for the assessment of the level of protection to the public and the environment, against the exposure to ionizing radiation associated with authorized radionuclide releases, disposal of radioactive waste, and from contamination resulting from past unregulated practices or accidents. Considerable work is being done with regards to modelling of planned and accidental radioactive releases into the marine environment and the potential effects of climate change on the safety performance of high-level radioactive waste disposal facilities.

A working group has been set up within the MODARIA II Programme that specifically addresses the assessment of the fate and transport of radionuclide contaminants within the marine environment. In addition, considerable work is being done by the other MODARIA II working groups regarding the modelling of planned and accidental radioactive releases to the marine environment and the potential effects of climate change on the safety performance of high-level radioactive waste disposal facilities. This work encourages Member States to enhance their scientific activity, furthers cooperation between Member States to better protect the marine environment, and facilitates the publishing of working group results within an IAEA report.

The IAEA project "Marine Monitoring: Confidence Building and Data Quality Assurance" was initiated as a follow-up activity to recommendations made on marine radioactivity monitoring related to the decommissioning of the Fukushima Daiichi Nuclear Power Station. With a view to assisting the Government of Japan in its objective of making the Sea Area Monitoring Plan comprehensive, credible and transparent, the IAEA, through its Environment Laboratories, is helping to ensure the high quality of data and to prove the comparability of the results. Seven sampling missions were organized in 2014 – 2017 to collect seawater, sediment and fish samples for interlaboratory comparisons (ILCs).