

# Radioactive Waste Management and Environmental Safety

## Objective

*To support Member States in improving the safety of radioactive waste and spent fuel management, including geological repositories for high level waste, decommissioning, remediation and environmental releases, through the development of safety standards and providing for their application. To support Member States in improving the safety of radioactive waste and spent fuel management, including geological repositories for high level waste, decommissioning, remediation and environmental releases through peer reviews and advisory services; and to assist in their adherence to, and facilitate the implementation of, the Joint Convention. To support Member States in capacity building through education and training and by encouraging the exchange of information and experience.*

## Radioactive Waste and Spent Fuel Management

The Agency developed guidance on the conduct of Integrated Regulatory Review Service (IRRS) and Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS) missions in a back-to-back manner. This guidance was used for the first time in Slovenia, where an IRRS mission held in April 2022 was followed by an ARTEMIS



*Back-to-back IRRS–ARTEMIS mission to Finland, October 2022 — ONKALO deep geological disposal facility.*

mission in May 2022. An IRRS–ARTEMIS back-to-back mission was also conducted in Finland in October 2022, and back-to-back missions started in Slovakia in September and Sweden in November 2022, to continue in 2023.

The Agency published *Leadership, Management and Culture for Safety in Radioactive Waste Management* (IAEA Safety Standards Series No. GSG-16) in January 2022.

The Agency held a virtual Technical Meeting on Guidance on Preparing for and Conducting Regulatory Reviews and Assessments of Geological Disposal Programmes in April 2022, and a Technical Meeting on Proportionate Regulation and Licensing of Different Types of Radioactive Waste Disposal Facilities, in Vienna in May 2022.

## Assessment and Management of Environmental Releases

The Advanced Liquid Processing System (ALPS) Task Force reviewed documents and data such as the radiological environmental impact assessment produced by the Tokyo Electric Power Company (TEPCO). These data are used by the Government of Japan and TEPCO in their assessment and management of environmental releases. The Task Force's review was a part of the broader safety review by the Agency looking at all aspects of the planned discharge of ALPS treated water against relevant Agency safety standards. The three major components of this safety review included the assessment of protection and safety; regulatory activities and processes; and independent sampling, data corroboration, and analysis.

The Agency held the Second Technical Meeting on Methods for Radiological and Environmental Impact Assessment (MEREIA) in Vienna in November–December 2022. The MEREIA programme is designed to enhance capacity in Member States for evaluating and addressing the impact of radioactivity in the environment. In addition, a series of webinars was held throughout 2022 for the development of young professionals as part of the capacity building and knowledge management objectives of MEREIA.

A new Database on Discharges of Radionuclides to the Atmosphere and Aquatic Environment was developed in 2022 to visualize discharge data. A Technical Meeting with Member States was held in April 2022 to agree on the scope and content of the database and the discharge data to be collected.

## Decommissioning and Remediation Safety

The Agency published *Remediation Strategy and Process for Areas Affected by Past Activities or Events* (IAEA Safety Standards Series No. GSG-15) in May 2022.

The Agency held the Fifth Technical Meeting on the International Project on Decommissioning of Small Medical, Industrial and Research Facilities in Brussels in May 2022, to advance the exchange of experiences and lessons learned related to the decommissioning of small facilities.

The Agency held the Annual Meeting of the Coordination Group for Uranium Legacy Sites virtually in May 2022 to continue the exchange of information among and technical coordination activities of Member States and international organizations involved in remediation of legacy uranium sites.

The Agency held the Annual Meeting of the Regulatory Forum for Safety of Uranium Production and Naturally Occurring Radioactive Materials in a virtual manner in June 2022. The participants discussed the progress made on high priority activities since the 2021 annual meeting of this body.

The Agency held a Technical Meeting of the International Working Forum on Regulatory Supervision of Legacy Sites on Long-Term Post-Remediation Management in Vienna in October 2022, focusing on areas affected by past activities or events. In November 2022, a Joint Workshop of the International Working Forum on Regulatory Supervision of Legacy Sites and the Coordination Group for Uranium Legacy Sites on Challenges to Remediation and Regulatory Supervision of Legacy Sites was held in Centurion, South Africa.





*Site visit to Tudor Shaft dump and Lancaster Dam in Krugersdorp, South Africa, November 2022.*

## **Joint Convention**

The Fourth Extraordinary Meeting of the Contracting Parties to the Joint Convention was held in Vienna in May 2022 to discuss potential ways to improve procedural mechanisms of the Joint Convention, taking into account the growing number of Contracting Parties and with a view to identifying and eliminating technical discrepancies between existing guidance documents of the Joint Convention.

The Agency hosted and provided Secretariat support for the Seventh Review Meeting of the Contracting Parties to the Joint Convention held in Vienna in June–July 2022. At the meeting, Contracting Parties reviewed and discussed National Reports and agreed, inter alia, on the progress made since the Sixth Review Meeting; several Good Practices and Areas of Good Performance, overarching issues and Suggestions; and the dates for the Eighth Review Meeting, i.e. 17 to 28 March 2025.