

Radioactive Waste Management and Environmental Safety

Objective

To achieve harmonization in policies and standards governing waste safety and public and environmental protection, together with provisions for their application, including sound technologies and good practices.

Radioactive Waste and Spent Fuel Management

International projects on the safety of high level radioactive waste disposal continued during 2016. A Technical Meeting was held in May, in Vienna, Austria, to follow up on the International Project on Demonstration of the Operational and Long-Term Safety of Geological Disposal Facilities for Radioactive Waste (GEOSAF Part II). The meeting was attended by 26 participants from 17 Member States, who agreed on the terms of reference for the follow-up project, GEOSAF III, and discussed the project plan of work. GEOSAF III will focus on the link between operational and long term safety of geological disposal facilities and on how to demonstrate the safety of such facilities. The first Plenary Meeting of the second phase of the International Project on Human Intrusion in the Context of Disposal of Radioactive Waste (HIDRA II) was held in Vienna, Austria, in January and was attended by 29 participants from 16 Member States. The participants exchanged information on recent national and international activities related to human intrusion in relation to the disposal of radioactive waste, and discussed and agreed on the work programme for HIDRA II. This work included the application of the general approaches and concepts described in HIDRA I, such as inadvertent human intrusion and deliberate human intrusion, and how they may be applied to the safety of disposal facilities.

The Agency assists Member States that are actively pursuing borehole disposal as an option for disused sealed radioactive sources (Fig. 1). In 2016, the Agency assisted Member States in building capacities for the development of borehole disposal. A dedicated School for Drafting Regulations on Waste Disposal, including borehole disposal, was organized for Ghana, Malaysia and the Philippines in October to assist those Member States in developing regulations prior to the implementation of borehole disposal.



FIG. 1. A specially designed canister, or disposal package, for borehole disposal of disused sealed radioactive sources.

Assessment and Management of Environmental Releases

In 2016, the Agency launched the second phase of the Modelling and Data for Radiological Impact Assessments (MODARIA) programme. MODARIA II focuses on applications of radiological impact assessments to support implementation of the Agency's safety standards. The first Technical Meeting for MODARIA II was held in late October–early November, in Vienna, Austria, involving 145 participants from 47 Member States. Participants discussed topics related to radiological impact assessment, including: risk informed decision making for environmental clean-up activities; Agency safety standards addressing protection of people and the environment and the need for radiological impact assessments; and remediation of radioactive contamination in agriculture.

Decommissioning and Remediation Safety

In June, the Agency organized a Technical Meeting on Remediation Techniques and Strategies in Post-Accident Situations. The meeting was held in Vienna, Austria, and attended by 55 participants from 35 Member States and 2 international organizations. Participants shared knowledge and experience related to the remediation and recovery of contaminated areas and the application of the relevant Agency safety standards. They also considered the application of radiation protection principles in post-accident situations, the identification of appropriate remedial actions, strategies for communication with the public and considerations on management of waste generated during remediation activities.

The Agency's International Project on Managing the Decommissioning and Remediation of Damaged Nuclear Facilities (DAROD Project) entered its final phase in 2016. Parallel meetings of the three DAROD Project working groups were held in Vienna, Austria, in late August–early September. The working group meetings involved 25 participants from 14 Member States, who shared and discussed experience on the decommissioning and remediation of damaged nuclear facilities. Participants also identified gaps and the need for additional guidance to address issues related to strategic planning, technical and regulatory aspects of decommissioning and remediation.

The Agency's Coordination Group for Uranium Legacy Sites (CGULS) continued to play a pivotal role in coordinating the many different organizations working toward the goal of sustainable remediation of uranium legacy sites in Central Asia. The Agency held the CGULS annual meeting in Vienna, Austria, in June–July involving 42 participants from 10 Member States, 5 international organizations and 1 non-governmental organization. The meeting participants discussed the development of a strategic master plan for remediation of uranium legacy sites in Central Asia. Participants also presented the current status of planning for remediation of legacy uranium production sites in their countries and discussed the perception of radiation risks by persons living near legacy uranium production sites.

Many Member States are participating in the Agency's International Working Forum on Regulatory Supervision of Legacy Sites (RSLs), reflecting the need for enhanced coordination and knowledge transfer concerning the remediation of these sites. The annual meeting of the Agency's RSLs was held in Vienna, Austria, in late November–early December, involving 29 participants from 21 Member States. The meeting participants summarized the training programmes conducted in their respective regulatory body and the challenges they face in ensuring that regulatory personnel are appropriately trained to supervise legacy sites.

The Agency completed the development of a comprehensive, seven module training course on the safety and regulatory aspects of uranium production. A substantial portion of this training course addresses the remediation of legacy uranium production sites. The course includes an overview of the safety of uranium production activities; decommissioning and closure of uranium production facilities; practical intervention

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FIG. 2. The development of a strategic master plan for remediation of legacy uranium sites such as the former Min-Kush uranium production site in Kyrgyzstan was discussed by CGULS Members, in Vienna, in June.

techniques to reduce public doses at uranium legacy sites; remediation of uranium sites; review of remediation plans and activities for uranium sites; and authorization and inspection of uranium production activities. The Agency conducted three such training courses in 2016, involving 55 participants from 34 Member States.

Joint Convention Meeting

The Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention) organized a Topical Meeting on the safety challenges and responsibilities of multinational radioactive waste disposal facilities, held in September at the Agency's Headquarters in Vienna. The Topical Meeting included sessions on, inter alia, the current status of the initiatives for multinational radioactive waste disposal, roles and responsibilities in the context of multinational disposal, and the liability and financial issues of such facilities.

A Meeting to Discuss Feedback from Contracting Parties to Improve the Review Process for the Joint Convention was held in October; its outcome will be discussed at the Third Extraordinary Meeting of the Contracting Parties to the Joint Convention scheduled to take place in May 2017.