IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Technical Meeting on Technologies and Approaches for Radioactive Waste Retrieval

IAEA Headquarters, Vienna, Austria
and virtual participation via Cisco Webex

27–31 July 2026

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Information Sheet

Introduction

Many countries continue to manage radioactive waste generated during earlier phases of nuclear development, when waste generation, treatment and storage practices reflected the standards and capabilities of their time. As a result, significant quantities of legacy waste remain in storage, often in ageing facilities, non-standard containers, or configurations not originally designed for long-term storage or eventual retrieval. In some cases, waste arising from facilities in operation or under decommissioning has accumulated in difficult-to-access locations or been affected by incidents or accidents, further complicating retrieval activities.

Against this background, radioactive waste retrieval has become a complex and, in some cases, high-priority activity within national waste management programmes. Retrieval operations must address uncertainties in waste composition and condition, degradation of storage systems, and elevated radiological and industrial hazards, while remaining aligned with current safety requirements and downstream waste management pathways. These challenges often require specialised technologies, including remotely

operated systems, and close integration between retrieval, waste characterisation and pre-treatment activities.

Retrieval challenges arise across a wide range of waste forms, including solid waste, liquids, sludges, slurries and heterogeneous or mixed waste streams, often stored in tanks, silos, vaults, ponds or other legacy facilities. Effective retrieval planning relies on waste characterisation to inform technology selection and operational design, but is frequently constrained by access limitations, radiological conditions or incomplete historical records, requiring strategies that can accommodate uncertainty and are aligned with downstream pre-treatment, conditioning, packaging and storage or disposal arrangements.

In this context, there is a growing need for structured exchange of practical experience and for improved understanding of the technical and programme challenges associated with radioactive waste retrieval across different waste forms and facility types. This Technical Meeting will contribute to that need and support consideration of the scope and focus of any future Agency guidance in this area.

Purpose

The purpose of the event is to share international experience, challenges and innovations in the retrieval of radioactive waste across all forms - solid, liquid, sludge and packaged. The meeting will provide a platform for Member States to present technologies, methodologies and lessons learned in planning and implementing retrieval operations, with a focus on safety, efficiency and adaptability to different waste types and facility conditions.

Objectives

The objectives of the meeting are to:

- Review national experience in the retrieval of radioactive waste in different forms and storage configurations;
- Review experience with different technologies and methodologies applied in retrieval operations, including their practical advantages and limitations;
- Gather and exchange information on operational constraints and facility-specific factors influencing retrieval activities, including relevant safety considerations.
- Identify lessons learned and practical approaches to improve efficiency and adaptability of retrieval strategies, and
- Identify areas where further guidance, cooperation or IAEA support may be beneficial.

Target Audience

The Technical Meeting is intended for Member States seeking to develop, adapt, or enhance their technical approaches for the safe retrieval of solid, liquid, or semi-liquid radioactive waste. It also provides a forum for Member States with established and proven practices to share operational experience and lessons learned. The meeting is targeted at representatives of nuclear facilities and organizations responsible for radioactive waste management, as well as relevant technical support organizations, with a particular focus on waste retrieval activities.

Working Language(s)

English.

Expected Outputs

This meeting aims to support the strengthening of the technical knowledge and capacity of Member States in the effective application of technologies for the retrieval of radioactive waste, including aspects such as pre-treatment, sampling, and radioprotection measures. As part of the Agency's ongoing support for the safe, efficient and sustainable management of radioactive waste, the technical meeting will enable participants to examine current methodologies, operational practices, and technological solutions relevant to the retrieval of a wide range of waste streams.

Through a combination of expert presentations, structured discussions, and the exchange of practical experiences, the meeting will provide an opportunity for participants to deepen their understanding of both established and emerging approaches in this field. The meeting will give particular attention to the technical challenges encountered in diverse national and operational contexts, and to the identification of adaptable solutions that support enhanced safety and operational efficiency.

In addition to fostering technical learning, the meeting will provide an opportunity to gather targeted experienced professional and technical specialist's feedback, insights and suggestions that will contribute directly to the continuous improvement of relevant IAEA tools, guidance materials, and services, helping to ensure that they remain responsive to the evolving needs of Member States. It will also promote the sharing of lessons learned and practical case examples, thereby strengthening international cooperation.

Structure

The event will comprise presentations delivered by participants, who will share their professional experiences and address the challenges encountered by Member States regarding the topics outlined below. Each participant is requested to indicate the selected topic and the title of the proposed presentation in the Participation Form (Form A). Following acceptance, participants shall be required to submit their presentation no later than two weeks prior to the commencement of the event.

In addition to the presentations, the event will include structured roundtable discussions and breakout sessions intended to facilitate in-depth examination of pertinent issues and topics of shared interest. These discussions will provide an open and constructive forum through which participants may exchange knowledge, consider shared challenges, and engage in collaborative dialogue on best practices within the field.

Topics

The meeting will facilitate comprehensive exchanges on practices, experience, and emerging trends in approaches to radioactive waste retrieval, with particular attention to key areas of relevance. Discussions will encompass a broad spectrum of topics, including:

- The characterization of waste through sampling, and its role in guiding retrieval strategies and technology selection, including the limitations and uncertainties associated with characterization in challenging environments;
- Pretreatment of radioactive waste as part of the retrieval process (e.g. dewatering of spent resin, etc.) and its influence on retrieval planning and downstream waste management steps;
- Retrieval of liquid, wet and dry solid waste including the specific technical and safety challenges associated with these waste types;
- Retrieval of combined waste forms, consisting of heterogeneous mixtures (liquids, sludge/slurries, solid and various mixtures) and the implications for system design and operational control;
- The deployment of robotic and remotely operated systems and their integration within storage tank and other legacy facility environments, including considerations related to reliability, maintenance and abnormal event management, and
- Locations that are difficult to access (including large-capacity tanks with complex internal structures), and the associated challenges in designing suitable technologies and operational approaches for the retrieval of waste

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **29 May 2026**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):
   - Persons with an existing NUCLEUS account can sign in to the platform with their username and password;
   - Persons without an existing NUCLEUS account can register here.

2. Once signed in, prospective participants can use the InTouch+ platform to:
   - Complete or update their personal details under 'Complete Profile' and upload the relevant supporting documents;
   - Search for the relevant event under the 'My Eligible Events' tab;
   - Select the Member State or invited organization they want to represent from the drop-down menu entitled 'Designating Authority' (if an invited organization is not listed, please contact InTouchPlus.Contact-Point@iaea.org);
   - If applicable, indicate whether a paper is being submitted and complete the relevant information;
   - If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
   - Based on the data input, the InTouch+ platform will automatically generate the Participation Form (Form A) and/or the Grant Application Form (Form C);
   - Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **29 May 2026**.

For additional information on how to apply for an event, please refer to the InTouch+ Help page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above.

Participants who wish to give presentations are requested to submit an abstract of their work. The abstract will be reviewed as part of the selection process for presentations. The abstract should be in A4 page format, should extend to no more than 2 pages (including figures and tables) and should not exceed 1000 words. It should be sent electronically to the Scientific Secretary of the event (see contact details below), not later than **29 May 2026**. Authors will be notified of the acceptance of their proposed presentations by **18 June 2026**.

Submission of a paper should be confirmed, together with the submission of the main application via the InTouch+ platform, by **29 May 2026**.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event [or, in the case of some event: will make an important contribution to his or her State's [emergency preparedness and response/nuclear security etc.] arrangements].

The application for financial support should be made, together with the submission of the application, by **29 May 2026**.

Venue

The event will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. Participants must make their own travel and accommodation arrangements.

General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page:

www.iaea.org/events.

Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day in order to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.

Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:

www.iaea.org/events/evt2503799