

Technical Meeting on Research and Development to Support the Effective Implementation of Nuclear Decommissioning Projects

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

24 - 28 November 2025

Ref. No.: EVT 2404400

Information Sheet

Introduction

The growing demand for nuclear decommissioning in the world requires more effective implementation of nuclear decommissioning projects, which comprise activities such as planning, characterization, decontamination, dismantling and demolition, and material/waste management. The IAEA has been facilitating knowledge and experience sharing and Coordinated Research Projects (CRPs) among its Member States and compiling technologies and techniques applicable for decommissioning activities in its publications (e.g. Technical Report Series No. 395 and TECDOC-1602).

Recently, advanced and innovative technologies (e.g. robotics and remote systems, digital tools, augmented and virtual reality (AR/VR), artificial intelligence (AI)) have been increasingly applied to nuclear decommissioning activities in the Member States to enhance safety, reduce cost, accelerate schedules, and minimize waste. Innovation and R&D may also address labour shortages, facilitate knowledge transfer, support reduction of secondary waste generation, and provide technical solutions to accelerate decommissioning activities. Additionally, social transformational trends such as circular economy and sustainability are becoming increasingly important in nuclear decommissioning.

Deploying and/or integrating new technologies can create new opportunities for nuclear decommissioning implementation organizations as well as R&D organizations (e.g. national research institutes, universities, industry) and other sectors.

In this context, the IAEA will organize the Technical Meeting (TM) on Research and Development to Support Effective Implementation of Nuclear Decommissioning Projects to share experience and discuss practical examples of deployment of R&D results to support effective and sustainable implementation of decommissioning projects.

Objectives

The overall objective of this meeting is to explore current status of R&D activities on decommissioning across the Member States and to facilitate the exchange of knowledge, experience, lessons learned and good practices on the implementation of R&D in nuclear decommissioning.

The aims of this meeting are:

- a) To share experience and discuss practical examples of R&D efforts being conducted by Member State organizations to support effective decommissioning;
- b) To identify gaps and future needs of R&D in decommissioning;
- c) To collect suggestions with priorities from the Member States on future IAEA activities on R&D in nuclear decommissioning.

IAEA Collaborating Centres on decommissioning, as well as other research, technical support and implementing organizations will be invited to present their R&D initiatives.

Target Audience

Participants are anticipated to have experience and expertise in planning and implement R&D programme and projects related to the decommissioning of nuclear facilities (e.g. nuclear power plants, research reactors and fuel cycle facilities). In addition, participants may also have experience and expertise in the field of innovative technologies deployment in various decommissioning projects. It is expected that participants will represent a broad range of stakeholders including decommissioning planners, implementors, regulators, industry, national nuclear laboratories, academia and similar.

Representatives of the IAEA Collaborating Centres on decommissioning, OECD/NEA, EC and other relevant counterparts are encouraged to participate in this meeting.

Working Language(s)

The working language of this meeting will be English with no interpretation provided. All communications, abstracts and papers must be submitted in this language.

Expected Outputs

The expected output of this meeting is:

- a) Shared experience and discussed practical examples of R&D efforts being conducted by Member State organizations to support effective and sustainable implementation of decommissioning;
- b) List of gaps and future needs of R&D in decommissioning;
- c) Suggestions for future IAEA activities on R&D in nuclear decommission based on the needs and priorities identified by the Member States.

The output of this meeting will be summarized in an internal meeting report. This output could constitute an input for a future report and/or other mechanism for information exchange.

Topics

This meeting will comprise a series of sessions to share and discuss R&D activities and the deployment of R&D outputs to support effective and sustainable implementation of decommissioning.

Participants are encouraged to present and discuss the following relevant topics:

- a) Planning, training and communication and knowledge management of decommissioning: new technologies/tools to support these activities;
- b) Characterization: robotic/remote systems for characterization including in-situ real-time approaches and autonomous approaches, and characterization of materials difficult to characterize or sample;
- c) Decontamination: application of robotic/remote technologies for decontamination, decontamination technologies reducing secondary waste generation and/or increasing the recycling of materials, and decontamination technologies for challenging contaminants;
- d) Dismantling and demolition: application of robotic/remote technologies to reduce the size of objects in specific conditions (e.g. open air, underwater, small/confined areas, high radiation areas) and their integration with AI technologies, digital technologies/tools (e.g. AR/VR, 3D modelling, haptics) for implementation of size reduction, and automation of handling of objects/fragments;
- e) Management of waste and materials during decommissioning process: mobile remote automation system for sorting, segregation, treatment, conditioning and packaging of materials/waste, and digital tools and AI to support materials/waste management;
- f) Circular economy and sustainability: R&D and innovative technologies for decommissioning contributing to circular economy and sustainability including recycling of materials, new approaches in melting of metals, reuse of radioisotopes and hazardous materials, etc.;
- g) Academia, policy and supply chain perspectives on R&D, education/training and development and application of new technologies for decommissioning.

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 10 September 2025, 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 <u>here.</u>
- 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 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 10 September 2025.

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

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 three pages (including figures and tables) and should not exceed 500 words. It should be sent electronically to Mr Yoshiaki Tamura, the Scientific Secretary of the event, with Mr Vladimir Michal, the Co-Scientific Secretary of the event, in copy (see contact details below), not later than 10 September 2025. Authors will be notified of the acceptance of their proposed presentations by 15 October 2025.

Submission of a paper should be confirmed, together with the submission of the main application via the InTouch+ platform, by 10 September 2025.

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.

The application for financial support should be made, together with the submission of the application, by 10 September 2025.

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.

IAEA Contacts

Scientific Secretary:

Mr Yoshiaki Tamura

Division of Nuclear Fuel Cycle and Waste Technology Department of Nuclear Energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 21519 Fax: +43 1 26007

Email: Y.Tamura@iaea.org

Co-Scientific Secretary:

Mr Vladimir Michal

Division of Nuclear Fuel Cycle and Waste Technology Department of Nuclear Energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 26105 Fax: +43 1 26007

Email: V.Michal@iaea.org

Administrative Secretary:

Mr Jovan Catovic

Division of Nuclear Fuel Cycle and Waste Technology Department of Nuclear energy International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA

Tel.: +43 1 2600 22754 Fax: +43 1 26007

Email: J.Catovic@iaea.org

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/evt2404400