



IAEA

International Atomic Energy Agency
Atoms for Peace and Development

Technical Meeting on Processing Technologies for Irradiated Graphite Waste

IAEA Headquarters, Vienna, Austria
and virtual participation via Microsoft Teams

5–9 August 2024

Ref. No.: EVT2304219

Information Sheet

Introduction

Graphite has been used as a moderator and reflector of neutrons in more than 100 nuclear power plants and in many research and plutonium-producing reactors, in quantities ranging from a few kilograms to more than 3000 tonnes depending upon the design. In reactor designs it is also used as a fuel-sleeve material, leading to the generation of large amounts of less-irradiated but still significantly radioactive material. The current resurgence of interest in the high temperature reactor concept in certain Member States has made it important to demonstrate that the totality of the carbon materials present in the reflectors and in the spent fuel itself must appropriately managed throughout the graphite life cycle.

Many of the older reactors have now been shut down, with more approaching the end of their lives, and some 250 000 tonnes of radioactive graphite (irradiated graphite, or ‘i-graphite’) have now accumulated worldwide. While there is progress towards the development of disposal solutions, increasing amounts of i-graphite reside in ‘temporary’ storage facilities awaiting its final destiny. There is an increasing sense of urgency now to make substantial progress in Member States where it is government policy to commence reactor dismantling in the near future, and this is driving international efforts to further explore the detailed characterization of this nuclear waste material (i-graphite) as well as potential processing.

The International Atomic Energy Agency (IAEA) has paid a great deal of attention to the problems arising from the need to dispose of i-graphite competently and safely. Options for the disposal of the i-graphite worldwide were last reviewed at a conference held in Manchester, UK (March 2007), held in collaboration

with the IAEA, on “Solutions for Graphite Waste: A Contribution to the Accelerated Decommissioning of Graphite Moderated Nuclear Reactors”. The collected submitted papers, along with records of the discussion sessions, were published as an IAEA Technical Document entitled Progress in Radioactive Graphite Waste Management (IAEA-TECDOC-1647) in 2010. The IAEA has also organized a coordinated research project entitled “Treatment of Irradiated Graphite to Meet Acceptance Criteria for Waste Disposal” (T21026), which was conducted from 2010 to 2014. The IAEA Technical Document Processing of Irradiated Graphite to Meet Acceptance Criteria for Waste Disposal (IAEA TECDOC-1790), which contains the results from that CRP, was published in 2016.

In order to further support Member States in resolving i-graphite management issues up to the industrial implementation of processing technologies, the IAEA launched in 2016 the International Project on Irradiated Graphite Processing Approaches (GRAPA), with four Technical Meetings under the project taking place in 2016, 2017 and 2019 in Vienna and 2018 in Vilnius. During the final meeting in Vienna in March 2020, a TECDOC with Annexes (consisting of individual reports) was generated representing the successful completion of the current project phase.

In 2020 the IAEA initiated a project on addressing irradiated graphite in decommissioning that focused on the programme and strategy definition for decommissioning of graphite reactors. For the time being, the IAEA is drafting the report on “Strategic roadmap for decommissioning of graphite reactors”. The last Technical Meeting was organised in October 2023 on site of the “Graphite Reactor Decommissioning Demonstrator” constructed by the EDF-DP2D close Chinon, France.

In 2021, the IAEA started developing a draft IAEA NE Series Technical Publication on the disposal of irradiated graphite that describes plans in progress in terms of graphite waste disposal worldwide. This publication reflects practices from Member States of Austria, Canada, France, Korea, Lithuania, Spain, UK, Russian Federation, USA, and Ukraine.

To support Member States regarding irradiated graphite management, the IAEA is organising dedicated Technical Meeting on established and emerging technologies for irradiated graphite waste processing exploring innovative solutions.

Objectives

The purpose of the event is to facilitate the exchange of knowledge, expertise, and good practices in processing technologies for irradiated graphite waste, while addressing the associated challenges and exploring innovative solutions.

Target Audience

The event is targeted at representatives of MS with a programme or project regarding the processing of irradiated graphite. In order to maximize the exchange of information, individuals attending should be from nuclear facilities NPPs, or from non-governmental or international organizations that represent such programmes regionally or worldwide.

Working Language(s)

English.

Expected Outputs

The meeting will facilitate the sharing of national and international experiences, lessons learned as well as innovative solutions under research. Information will be summarised to aid future discussions regarding the management of irradiated graphite waste (i.e., WATEC and /or TWG of RWM).

Structure

The meeting will be structured as set of lectures to present national and international projects, activities and initiatives addressed to development of the techniques to process graphite waste, including Q&A sessions such as panel discussion about “Processing of irradiated graphite to optimize disposal solutions”. An overview of ongoing IAEA projects on decommissioning of graphite reactors and disposal solutions for irradiated graphite will be presented, as well.

Topics

Current established and emerging technologies for irradiated graphite waste management processes and the following topical areas will be considered:

1. Decommissioning.
2. Characterisation.
3. Processing.
4. Package and storage.
5. Disposal.
6. Safety, legislative and financial aspects.

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 **15 May 2024**, 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 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 **15 May 2024**.

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 3 pages (including figures and tables) and should not exceed 3000

words. It should be sent electronically to Willie Meyer, the Scientific Secretary of the event (see contact details below), not later than **12 July 2024**. Authors will be notified of the acceptance of their proposed presentations by **12 July 2024**.

In addition to the registration already submitted through the InTouch+ platform, participants have to submit the abstract, together with the Form for Submission of a Paper (Form B), to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA not later than **12 July 2024**.

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 arrangements.

The application for financial support should be made, together with the submission of the application, by **15 May 2024**.

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

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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/EVT2304219

Enclosure: Form for Submission of a Paper (Form B)

Form for Submission of a Paper

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To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: W.Meyer@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary M.Tolstenkova@iaea.org and to the Administrative Secretary Official.Mail@iaea.org.

Deadline for receipt by IAEA through official channels: 15 May 2024

Title of the paper:		
If applicable: Abstract ID in IAEA-INDICO:		
Family name(s) and first name(s) of all author(s) (same as in passport(s):	Scientific establishment(s) in which the work has been carried out	City/Country
1.		
2.		
3.		
Family name(s) and first name(s) of author presenting the paper (same as in passport):	Mr/Ms:	
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