



Technical Meeting on Proliferation Resistance of Fast Reactors and Advanced Fuel Cycles

IAEA Headquarters, Vienna, Austria

**18 - 22 August 2025
M Building, M4**

Ref. No.: EVT2304537

Information Sheet

Introduction

Fast reactors and associated nuclear fuel cycles are increasingly recognized as a sustainable option for nuclear power. These technologies represent a transformative pathway for the future of nuclear power by improving resource efficiency. They may enable nuclear energy to remain a viable, sustainable, and widely accepted part of the global energy mix. Their successful implementation is thought to be important for meeting energy security and climate change mitigation goals while ensuring the long-term sustainability of nuclear power. At the same time, there are concerns about the Proliferation Resistance (PR) of these fuel cycles.

Proliferation Resistance is defined by a Technical Meeting at the International Atomic Energy Agency (IAEA) as “...that characteristic of a nuclear energy system that impedes the diversion or undeclared production of nuclear material or misuse of technology by States in order to acquire nuclear weapons or other nuclear explosive devices”. “The degree of proliferation resistance results from a combination of, inter alia, technical design features, operational modalities, institutional arrangements and safeguards measures. Intrinsic proliferation resistance features are those features that result from the technical design of nuclear energy systems, including those that facilitate the implementation of extrinsic measures. Extrinsic proliferation resistance measures are those measures that result from States' decisions and undertakings related to nuclear energy systems.” (IAEA-STR-332)

This Technical Meeting on Proliferation Resistance of Fast Reactors and Associated Fuel Cycles (hereinafter referred to as the event) is bringing together researchers, developers, designers, vendors,

operators and the broader world of fast reactor and nuclear fuel cycle communities. Recent years have seen significant advancements in fast reactor technology, leading to the development of various new reactor designs as well as in demonstration of associated fuel cycles. This event will review the current status, international progress, and recent innovations in the field of proliferation resistance of fast reactors and associated fuel cycles. It will also address Member States' expressed need for information exchange on projects and programmes in this field, as well as identify priorities based on the analysis of technology gaps to be covered through research and development (R&D) activities at the international level.

Objectives

The purpose of the event is i) to review and discuss proliferation resistance features of fast reactor designs; ii) to identify potential gaps in the technology; iii) to propose and present the design features that can ensure non-proliferation; and iv) to suggest prospective activities for the IAEA to initiate, join or promote in the field of proliferation resistance reactor designs

Target Audience

The meeting is open to all Member States involved or interested in the research, development, and innovations in the field of proliferation resistant features of fast reactor designs and associated fuel cycles, including government organizations (policymakers, analysts, regulators and R&D agencies) and industry stakeholders (vendors, engineering companies, plant operators and technology developers).

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 English.

Expected Outputs

The expected outputs are:

- Identification of key research priorities and areas for future collaboration between interested Member States on the topics of the event;
- Development of recommendations to the IAEA on future joint efforts and coordinated research activities in this area;
- Publication of an IAEA technical document (TECDOC series) with the proceedings of the meeting;

- Recommendations for selected contributions to be presented at technical sessions and during panel discussions at the upcoming IAEA International Conference on Fast Reactors and Related Fuel Cycles (FR26).

Topics

The event will consist of several sessions, and all contributions, presentations and discussions will be categorized based on the following topics (examples of topics are given for each topic to facilitate participants with session selection):

1. Evaluation of Proliferation Resistance (PR) of Fast Reactors and Associated Fuel Cycles: Methodologies, Definitions, Assessment and Metrics

- Capacity building for fast reactors advancement and associated fuel cycle development
- Simulation tools and nuclear data
- 3S (safeguards, safety and security) by design
- International collaboration and sharing experience
- Economic consideration: Maintaining a balance between resistance to nuclear proliferation, nuclear and physical nuclear safety, and economic considerations

2. Reactor Design Features for Enhancing Proliferation Resistance

- Fast reactor design aspects
- Once-through high burnup cores
- Fuel isotopic composition and reactor safety
- Fuel type such as metal, nitride and other types of advanced fuels

3. Proliferation Resistance Considerations for Fast Reactor Fuel Cycles

- TRU one-site recycling
- Considerations Fuel cycle options
- Technologies for reprocessing and partitioning
- PR fuels: Composition, production, and safety related issues

4. Safeguardability of Fast Reactors and Associated Fuel Cycles

- Innovative verification techniques
- Design decisions that facilitate safeguards verification

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 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 [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 2025**.

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 extended abstract of their work. The abstract will be reviewed as part of the selection process for presentations. The extended abstract should

be in A4 page format, should extend to no more than four pages (including figures and tables). It should contain title, contributing author(s) names and affiliation, must be written in English, and provide sufficient information on the contents of the proposed paper for evaluation. The MS Word template is available at <https://conferences.iaea.org/e/PRFR>. The extended abstract will be reviewed as part of the selection process for presentations. The extended abstract should be in Microsoft Word format and should not exceed four pages. It should be uploaded to INDICO website (<https://conferences.iaea.org/e/PRFR>), not later than **15 May 2025**. Authors will be notified of the acceptance of their proposed presentations by **15 June 2025** and provided with peer-review feedback.

In addition to the registration already submitted through the InTouch+ platform, participants have to submit the extended abstract, together with the Form for Submission of a Paper (Form B, available at <https://conferences.iaea.org/e/PRFR>), 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 **15 May 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 **15 May 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.

Additional Information: Key Deadlines

Action	Date
Extended abstract submission deadline	15 May 2025
Submission of application via the InTouch+ platform (https://intouchplus.iaea.org)	15 May 2025
Notification of acceptance of extended abstract and request for revisions	15 June 2025
Submission of the revised extended abstract	31 July 2025
Technical Meeting	18-22 August 2025

Event Web Page

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

<https://conferences.iaea.org/e/PRFR/>

IAEA Contacts

Scientific Secretaries:

Ms Amparo Gonzalez Espartero

Nuclear Fuel Cycle and Material Section
Division of Nuclear Fuel Cycle and Waste Technology
Department of Nuclear Energy
International Atomic Energy Agency

Tel.: +43 1 2600 22507

Email: A.Gonzalez-Espartero@iaea.org

Mr Vladimir Kriventsev

Nuclear Power Technology Development Section
Division of Nuclear Power
Department of Nuclear Energy
International Atomic Energy Agency

Tel.: +43 1 2600 22808

Email: V.Kriventsev@iaea.org

Ms Carolynn Scherer

International Project on Innovative Nuclear Reactors and Fuel Cycles INPRO
Division of Nuclear Power
Department of Nuclear Energy
International Atomic Energy Agency

Tel.: +43 1 2600 21392

Email: C.Scherer@iaea.org

Administrative Secretary:

Mr Hugo Gauna Nunez

Nuclear Power Technology Development Section

Division of Nuclear Power

Department of Nuclear Energy

International Atomic Energy Agency

Vienna International Centre

PO Box 100, 1400 VIENNA, AUSTRIA

Tel.: +43 1 2600 22803

Email: H.Gauna-Nunez@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.

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

Form for Submission of a Paper

Technical Meeting on Proliferation Resistance of Fast Reactors and Advanced Fuel Cycles

IAEA Headquarters, Vienna, Austria.

18 to 22 August 2025

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: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretaries A.Gonzalez-Espartero@iaea.org, V.Kriventsev@iaea.org and C.Scherer@iaea.org, and to the Administrative Secretary h.gauna-nunez@iaea.org.

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Deadline for receipt by IAEA through official channels: 15 May 2025

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:	
Mailing address:		
Tel. (Fax):		
Email:		

I plan to attend virtually:

Yes ☐ No ☐

I hereby agree to assign to the International Atomic Energy Agency (IAEA):

☐ the copyright; or

☐ the non-exclusive, worldwide, free-of-charge licence (this option is only for those authors whose parent institution does not allow them to transfer the copyright for work carried out in that institution) granting the IAEA world rights for the use of the aforementioned material in this and any future editions of the publication, in all languages, and in all formats available now, or to be developed in the future (digital formats, hard copy etc.).

Please note: If granting the licence mentioned above, please supply any copyright acknowledgement text required.

Furthermore, I herewith declare:

☐ that the material submitted to the IAEA is original, except for such excerpts from copyrighted works as may be included with the permission of the copyright holders thereof, has been written by the stated authors, has not been published before, and is not under consideration for publication by another entity;

☐ that any permissions and rights to publish required for third-party content, including but not limited to figures and tables, have been obtained, that all published material is correctly referenced; and

☐ that the material submitted to the IAEA does not contain any libellous or other unlawful statements and does not contain any materials that violate any personal or proprietary rights of any person or entity.

Date:

Signature of main author: