



IAEA

International Atomic Energy Agency
Atoms for Peace and Development

Technical Meeting to Identify Opportunities and Challenges in the Back End of the Fuel Cycle for Evolutionary Accident Tolerant Fuels

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

14–17 June 2022

Ref. No.: EVT2105840

Information Sheet

Introduction

There is an ongoing interest from Member States in the development and deployment of accident tolerant fuels (ATFs, that are included in the generic group of Advanced Technology Fuels). Such fuels are seen to offer both safety and economic benefits for nuclear power reactors with many designs under consideration. Those technologies that are mature enough to commence fuel qualification and achieve near term deployment (i.e., within the coming decade) in the existing fleet of light water reactors (LWRs) and in the LWR-based small modular reactor (SMR) designs are termed ‘evolutionary accident tolerant fuels’ (eATFs).

There are numerous designs and concepts that could be termed as eATFs, based on features such as enhanced cladding, modified uranium oxide fuel (including dopants), and increased enrichment.

A great deal of research and development has been undertaken to support the introduction of eATFs into commercial nuclear power reactors; the first eATFs entered service in 2021 as part of a test programme. These tests support the economic and safety cases for reactor core operations and provide preliminary information to anticipate potential impacts on the back end of the fuel cycle when compared to traditional power reactor fuels. This includes during storage, transportation, reprocessing and recycling, and disposal.

The IAEA is organizing a Technical Meeting on 14 to 17 June 2022 to facilitate the exchange of information regarding eATFs to enable experts to collaboratively identify the opportunities and challenges faced in all stages of the back end of the fuel cycle (storage, transportation, reprocessing & recycling, and disposal) by the introduction of eATFs into commercial use.

Objectives

The purpose of the event is to share technical information on research and operational experience (such as storage, reprocessing and recycling, transportation, and disposal) related to spent evolutionary accident tolerant fuels (eATFs), in order to identify opportunities and challenges in their future management and deployment.

Target Audience

The event is intended for participants from nuclear fuel research organizations, nuclear power plants, utilities, regulatory bodies, technical support organizations, universities, nuclear fuel vendors, and other organizations engaged in the design, fabrication, operation and subsequent management of evolutionary accident tolerant fuels. Participants should be actively involved in the subject of the event and have considerable experience of the relevant activities.

Working Language(s)

English.

Expected Outputs

The event will provide the basis for preparing a report compiling technical papers capturing the state of the art, discussions of the event, and recommendations for future activities to support the introduction of evolutionary accident tolerant fuels (eATFs) from a spent fuel management perspective.

Topics

Papers on the following topics are welcomed:

- National and international programmes for spent eATF management;
- Fuel cycle strategies, their assessment tools, and their inventory forecasts;

- Impacts on spent fuel storage conditions and systems (wet and dry);
- Impacts on reprocessing and potential recycling routes;
- Impacts on disposal.

Those ATFs that are in development for deployment in Generation-IV reactor designs are termed “revolutionary accident tolerant fuels” (rATFs) and are outside of the scope of this Technical Meeting. Further activities are planned in 2022 in relation to these fuels.

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, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **15 April 2022**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

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.

Papers and Presentations

Participants are expected to present papers falling within the scope of topics listed above. All papers must present original work and should not have been published elsewhere.

Participants who wish to give presentations are requested to submit a full paper in a two stage process. An abstract should be submitted before **15 April 2022** via the web-based file submission system IAEA-INDICO. The abstract should be **no more than three hundred words**. Once accepted, a full paper is to be submitted via IAEA-INDICO not later than **20 May 2022**.

Papers can only be considered if the **Participation Form (Form A)** together with the **Form for Submission of a Paper (Form B)** have been submitted by the author to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or their organization for onward transmission to the Scientific Secretary of the event, not later than **15 April 2022**.

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 using the **Grant Application Form (Form C)**, which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **15 April 2022**.

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

The agenda and link to access the online component will be sent to the designated participants before the event.

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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/EVT2105840