

Joint IAEA-NEA-EC/JRC Workshop on the Taxonomy and Related Terminology of Fuel Cycles for Molten Salt Reactors

**IAEA Headquarters
Vienna, Austria**

3 - 7 November 2025

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Information Sheet

Introduction

Molten Salt Reactor (MSR) technologies offer unique opportunities for advanced nuclear energy systems with the potential for closed fuel cycle operation. However, the successful development, licensing, and deployment of MSRs require, among other considerations, a clear and consistent understanding of the fuel cycle processes involved. This need was highlighted during the International Workshop on the Chemistry of Fuel Cycles for Molten Salt Reactor Technologies jointly organized by the OECD/NEA and the IAEA in October 2023. During the Workshop, the necessity for preparing a taxonomy of the different fuel cycles associated to the different MSR technologies was highlighted. This effort would build on the MSR taxonomy described in the IAEA Technical Reports Series No. 489 on the Status of Molten Salt Reactor Technology, published in 2023. Furthermore, discussions among stakeholders in the development and implementation of MSR fuel cycles emphasised the need for a consistent and robust terminology for MSR fuel cycles to facilitate effective communication and collaboration.

This need and the benefit of an effective collaborative approach to address it through a joint International Workshop were recognized and endorsed by the OECD/NEA Expert Group on Fuel Recycling and Waste Technology (EGFRW), under the auspices of the Working Party on Scientific Issues of Advanced Fuel Cycles (WPFC), and by the IAEA Technical Working Group on Nuclear Fuel Cycle Options and Spent Fuel Management (TWG-NFCO). Later on, the European Commission (EC) through its Joint Research Center has also expressed its interest to participate in the organization of the Workshop. This joint effort aims at effectively using and managing resources and international expertise to pursue the ultimate goal to

expand the knowledge and support the development and deployment of molten salt reactor systems, through synergies between the three international organizations (IAEA, EC-JRC and OECD/NEA).

The Workshop participants are expected to actively contribute to the development of a draft taxonomy of MSR fuel cycles and a glossary of related terminologies through collaborative participation in designated technical and working sessions. It should be noted that the scope of the taxonomy exercise for MSR fuel cycles will be focused on liquid, chloride and fluoride-based, fuels unique to MSRs (i.e., solid fuels, which can also be implemented in non-MSR designs, are not considered in this exercise).

Objectives

The purpose of the event is to identify and establish a taxonomy for the fuel cycle options related to molten salt reactor technologies, and to draft a suitable terminology for the different stages of the fuel cycles to facilitate public communication on this complex topic.

Target Audience

The event is designed for experts from NEA member countries and IAEA member states including a broad range of stakeholders with knowledge of the fuel cycle technologies for MSRs: e.g., R&D, MSR developers and vendors, industry, regulators, governmental authorities, and waste management organizations. Participants should be actively involved in the subject of the event and have experience and/or expertise in the relevant topics.

Expected Outputs

The expected outputs of the Workshop will be a joint technical document on the taxonomy of MSR fuel cycles and a glossary of related terminology as well as the identification of possible areas of future work and collaborations between the three organizations.

Topics

Extended abstracts and presentations covering one or more of the following topics are welcomed:

- MSR Fuel Cycle Scenarios:
 - MSR fuel cycle scenario modelling: covering once-through to full recycling options
 - Flowsheet studies
 - Safeguards and MC&A considerations

- MSR Fuel Cycle Technologies:
 - Clean-up and chemical control of fuel salt (with focus on fission products and contaminants removal)
 - Recycling of actinides
 - Influence of waste streams on fuel cycle options
 - Off-gassing techniques
 - Online, inline, offline, at-line, onsite, and offsite treatment options
 - How fuel cycle technologies affect the coupling of chemistry and physics
- Impacts of the input streams on the fuel cycle:
 - Fuel source (e.g.: fresh fuel, recycled from spent fuel from other reactors)
 - Fuel and blanket salts
 - Fissile/fertile material (e.g.: U/Pu, Th/U, fuels with minor actinide)

Working Language(s)

English

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 **6 August 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 at the time of the application submission in the InTouch+ platform (<https://intouchplus.iaea.org>) by **6 August 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

In addition to the registration already submitted through the InTouch+ platform, participants have to submit an extended abstract (1-5 pages), 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 **6 August 2025**.

Additionally, for the selection process, this extended abstract must be submitted through the IAEA INDICO page <https://conferences.iaea.org/event/416/> no later than **6 August 2025**. Extended abstracts should be in A4 page format, should extend to no more than 5 pages (including figures and tables) and should be in the IAEA template available in INDICO platform. The reviewed and accepted extended abstracts will be included in the Technical Report collecting discussions, conclusions and findings of the Workshop. Authors will be notified of the acceptance of their proposed work by **11 September 2025**.

The IAEA/NEA/EC-JRC encourages those participants with an accepted extended abstract to deliver a presentation on the work of their respective institutions that falls under the topics listed in above Topics Section.

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 **6 August 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: <https://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: <https://www.iaea.org/events/EVT2404560>

INDICO Webpage for Paper submission: <https://conferences.iaea.org/event/416/>

Enclosures:

- Form for Submission of a Paper (Form B)