



IAEA

International Atomic Energy Agency

Technical Meeting on Safety Considerations in Non-Water-Cooled Reactors Fuel and Core Design

IAEA Headquarters, Vienna, Austria

and virtual participation via Microsoft Teams

25–29 August 2025

Ref. No.: EVT2404071

Information Sheet

Introduction

Non-water-cooled reactors (non-WCRs), including sodium-cooled fast reactors (SFRs), lead-cooled fast reactors (LFRs), high temperature gas-cooled reactors (HTGRs), and molten salt reactors (MSRs), account for the majority of the advanced reactor designs being developed and demonstrated worldwide. The current IAEA safety standards, however, are primarily based on good practices drawn from the Member States' experience of water-cooled reactors (WCRs). There are certain areas of non-applicability and/or technical gaps in safety considerations for extending the scope to non-WCRs.

In 2023, the IAEA completed a review of the applicability of the IAEA safety standards to various non-WCRs and small modular reactors (SMRs). The main outcomes are presented in IAEA Safety Reports Series No. 123 “Applicability of IAEA Safety Standards to Non-Water-Cooled Reactors and SMRs” (SRS-123). In the area of reactor core design, i.e. reference to the scope of IAEA Safety Standards Series No. 52 “Design of the Reactor Core for Nuclear Power Plants” (SSG-52), the review confirmed that the safety guidance can be carefully applied to non-WCRs, but may require technical interpretation because of their technological distinctions. In addition, technical gaps in the general and specific safety recommendations were also identified.

In the long-term, the IAEA safety standards will cover the technologies being considered in various non-WCRs. Since 2024, the IAEA has conducted two consultancy meetings to discuss the scope and develop the contents of an IAEA TECDOC on the topic of safety considerations of fuel and core design for non-WCRs, in order to support the projected revision of SSG-52 and other relevant IAEA safety standards. The meetings agreed on a methodology to categorize the safety recommendations (and requirements) based on their revision

needs. The meetings also provided technical inputs for the development of technology inclusive recommendations to cover, and/or of technology specific recommendations and examples for, non-WCRs.

Objectives

The purpose of this technical meeting (hereinafter referred to as “event”) is to bring together designers, licensees, operators, and regulators to exchange information on, and share national practices of, how to address safety considerations of non-WCRs fuel and core design. More specifically, the event aims to collect inputs on the revision needs and proposals for SSG-52, in terms of technology inclusive recommendations to cover, and/or technology specific recommendations and examples for, non-WCRs.

The event will also collect review comments from the participants on a draft IAEA TECDOC currently being developed on the same subject matter.

Target Audience

The event is open to representatives of nuclear power organizations from Member States with an active nuclear power programme, including from embarking countries that have undertaken activities to implement their first nuclear power plant, and Member States with extensive expertise in the topics covered by the event. It includes government organizations (policymakers, analysts, regulatory bodies and research and development agencies), and industry (vendors, engineering companies, plant operators and technology developers).

Working Language(s)

English.

Expected Outputs

The expected outputs of this event include 1) a meeting report summarizing the discussions and inputs of technology inclusive recommendations to cover (and/or of technology specific recommendations and examples for) non-WCRs, 2) an improved methodology to categorize the safety recommendations (and requirements) of the IAEA safety standards based on their revision needs, and 3) an improved draft TECDOC to address safety considerations of fuel and core design for non-WCRs.

Topics

Topics to be discussed in the event include:

- Member States’ practices and experiences on safety considerations in non-WCRs fuel and core design, including technological development, safety regulations, and licensing process;
- Methodology to categorize safety recommendations (and requirements) in IAEA safety standards based on their revision needs by extending the scope to coverage of non-WCRs;
- Applicability of SSG-52 safety recommendations to non-WCRs;

- Any technology specific examples of non-WCRs that might be included in the SSG-52 revision to enhance the applicability of its safety recommendations;
- Any technology specific recommendations for non-WCRs that might be included in the SSG-52 revision to address the technical gaps identified by considering the non-WCR fuel and core design.

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 **16 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 **16 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 of 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 are 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 2 pages (including figures and tables) and should not exceed 500 words. It should be sent electronically to Mr Kaichao Sun, the Scientific Secretary of the event (see contact details below), no later than **16 May 2025**. Authors will be notified of the acceptance of their proposed presentations by **6 June 2025**.

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 **16 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 **16 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.

IAEA Contacts

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary 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/EVT2404071>