Joint IAEA–GIF Workshop on the Safety of Non-Water Cooled Reactors

IAEA Headquarters
Vienna, Austria

30 May to 2 June 2023

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Information Sheet

Introduction

The International Atomic Energy Agency (IAEA) and the Generation IV International Forum (GIF) have jointly committed to collaborate between their respective programmes, and share information in selected areas of mutual interest. One of the key areas of focus for both the GIF and the IAEA is the safety of liquid metal cooled fast reactors (LMFRs) – including sodium cooled fast reactors (SFRs) and lead cooled fast reactors (LFRs) – high temperature gas cooled reactors (HTGRs) and molten salt reactors (MSRs). A particularly important area of mutual interest is the harmonization of safety approaches, safety requirements, Safety Design Criteria (SDC) and Safety Design Guidelines (SDG), as well as the applicability of IAEA safety standards for the next-generation of advanced non-water cooled reactors (NWCRs) under development worldwide.

Within the framework of this collaboration, ten joint IAEA–GIF technical workshops on the safety of SFRs have been held since 2010 (the meetings organised since 2018 also covered LFRs). Two joint IAEA-GIF meetings on the safety of HTGRs (the meeting organised in 2022 also covered MSRs) have also been held.

The focus of this workshop will be twofold:

i) Building on the outcome of previous abovementioned IAEA-GIF meetings on the safety of LMFRs, to provide a forum for the exchange of technical information on the development and implementation of SDC and SDG, developed since 2011 within the GIF, for LMFRs, and experiences in the application of IAEA design safety and safety assessment standards to LMFRs;

ii) To provide a platform for the exchange of technical information on the safety approach in the design of, and application of IAEA design safety and safety assessment standards to, HTGRs and MSRs. Furthermore, the workshop will allow IAEA to collect feedback from the GIF representatives and other participants on a draft IAEA TECDOC on "Considerations on the Safety of High-Temperature Gas-Cooled Reactors and Molten Salt Reactors" currently under development.

Outcomes from this workshop will support the development of an international repository of knowledge to enhance global understanding of the safety related issues and the safety demonstration of NWCRs, and to contribute to the future development of the IAEA safety standards.

Objectives

The main objectives of this workshop are to:

- Share information on the development of SDC and SDG for LMFRs by the GIF and collect feedback on the implementation of SDG for SFRs and SDC for LFRs by the designers of innovative LMFRs concepts;
- Share information on the safety approach and on design solutions implemented in LMFRs in operation and on innovative design solutions under development for new LMFRs;
- Share experience on the safety approach and on design solutions under development for HTGRs and MSRs;
- Share experience in development of licensing frameworks for LMFRs, HTGRs and MSRs;
- Share experience in the application of IAEA design safety and safety assessment standards to LMFRs, HTGRs and MSRs; and
- Collect feedback on a draft IAEA TECDOC on "Considerations on the Safety of High-Temperature Gas-Cooled Reactors and Molten Salt Reactors".

Target Audience

The event is targeted at professionals from organizations involved in the design of nuclear power plants (NPPs), operating organizations, nuclear regulatory authorities, technical support organizations, and research institutions that are engaged in activities related to or in support of the development or the regulation of LMFR, HTGR and MSR designs.

The event is open to representatives of all Member States with an active nuclear power programme, including those from embarking countries in an advanced stage of their nuclear programme.

Working Language(s)

English.

Expected Outputs

The meeting will contribute to the ongoing development of a TECDOC on "Considerations on the Safety of Liquid Metal Cooled Fast Reactors".

The meeting will also provide a framework to collect results of the review by the GIF representatives of an IAEA TECDOC on "Considerations on the Safety of High-Temperature Gas-Cooled Reactors and Molten Salt Reactors.

Topics

Topics to be discussed will include:

- Experience in the consideration of SDG for SFRs and SDC for LFRs by the designers of LMFRs.
- Development and qualification of innovative design features, including experimental programmes supporting the validation of numerical computer codes supporting the design and safety assessment of LMFRs, HTGRs and MSRs.
- Relevant operating experience related to LMFRs, HTGRs and MSRs.
- Collecting knowledge addressing safety aspects of LMFRs, HTGRs and MSRs (in operation, when applicable, as well as in the design phase), on topics such as:
    - Identification of safety functions;
    - Design basis for structures, systems and components important to safety;
    - Application of the concept of practical elimination of large or early radioactive releases;
    - Justification of meeting acceptance criteria for the different plants states;
    - Application of IAEA design safety and safety assessment standards to NWCRs
    - Outcomes and experiences of the regulatory review of NWCR.

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 **31 March 2023**. 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. 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.

Papers and Presentations

The IAEA encourages participants to submit papers and provide presentations on the work of their respective institutions that falls under the topics listed above.

Participants who wish to submit a paper and provide 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 two pages (including figures and tables), and should not exceed 1500 words. It should be sent electronically to Mr Simone Massara and to Mr Javier Yllera, the Scientific Secretaries of the event (see contact details below), not later than **31 March 2023**. Authors will be notified of the acceptance of their proposed presentations by **28 April 2023**.

In addition, participants have to submit the abstract together with 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) or their organization for onward transmission to the IAEA not later than **31 March 2023**.

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 **31 March 2023**.

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/evt2204905

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 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/evt2204905

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