



IAEA

International Atomic Energy Agency
Atoms for Peace and Development

Workshop on the Safety of Fuel Manufacturing for Advanced Reactors

IAEA Headquarters, Vienna, Austria

24 – 27 June 2024

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Information Sheet

Introduction

The International Atomic Energy Agency (IAEA) supports its Member States in improving safety of design and operation of nuclear fuel cycle facilities (NFCFs). The IAEA Safety Standards Series No. SSR-4, Safety of Nuclear Fuel Cycle Facilities establishes the requirements that must be met to ensure the protection of people and the environment, throughout the lifetime of a NFCF. Further, the IAEA Safety Guides on NFCFs provide recommendations and guidance on meeting these safety requirements, including those for manufacturing and reprocessing nuclear fuel.

There are presently a number of innovative and advanced nuclear power reactor concepts, including small modular reactors (SMRs), on which research and development work is being undertaken, and they are characterized by different design approaches, technologies and safety features, e.g.: liquid metal-cooled fast neutron reactors such as sodium-cooled fast reactors and lead-cooled fast reactors, very high temperature gas-cooled reactors, gas-cooled fast reactors, and molten salt reactors. These designs rely among other aspects, on new nuclear fuel types with features and manufacturing processes that differ from the current fuel designs. Manufacturing or reprocessing of nuclear fuels for advanced reactors might require design of new facilities or modification of the existing ones and entails new challenges for the safety of these facilities which need to be addressed in the design and operation of these facilities.

In response to this, the IAEA is organizing this Workshop on the Safety of Fuel Manufacturing for Advanced Reactors at the IAEA Headquarters, Vienna, 24 – 27 June 2024.

Objectives

The purpose of the event is to provide a platform for Member States to discuss and exchange information on, and experience in, the safety of manufacturing new fuels for advanced reactors.

Target Audience

Participation in the workshop is subject to designation by Governments or national organizations. The target audience for the workshop are the Member States operating or evaluating NFCFs for advanced fuel manufacturing and reprocessing, as well as Member States developing and offering those technologies. The range of the facilities covered by the event includes facilities for manufacturing or reprocessing of nuclear fuels for advanced reactors, including nuclear fuel cycle research and development facilities; and supporting facilities.

To ensure maximum effectiveness in the exchange of information, participants should be facilities' managers, designers or persons responsible for manufacturing of advanced nuclear fuels. Persons from regulatory bodies and technical support organizations responsible for safety of manufacturing or reprocessing of nuclear fuels for advanced reactors, can also participate in the workshop.

Member States are strongly encouraged to identify suitable women participants.

Working Language(s)

English

Topics

In addition to presentations by the IAEA representatives on the IAEA safety standards on NFCFs and their application specifically with respect to manufacturing of new fuels, and on the IAEA support for advanced fuel development, including recycled fuel and NFCFs operation, the workshop will include presentations by the participants focusing on safety of manufacturing and reprocessing of fuels for advanced reactors. The workshop will address the following topics:

- Application of the IAEA Safety Standards Series No. SSR-4, Safety of Nuclear Fuel Cycle Facilities;
- Specific considerations regarding the production and use of fresh fuels derived from natural fissile materials versus recycled ones for both advanced and existing reactors;
- Safety challenges of NFCFs associated with manufacture and reprocessing of fuels for advanced reactors;
- Specific considerations regarding the production and use of High-Assay Low-Enriched Uranium (HALEU) fuels for Small Modular Reactors (SMRs);
- Safety features in the design and operation of manufacturing and reprocessing facilities for advanced fuels;

- Member States' experience in the development of regulations and guidance on safety for manufacturing and reprocessing of advanced fuels;
- Applicability of the existing IAEA Safety Standards to manufacturing and reprocessing of fuels for advanced reactors.

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 **29 March 2024**. 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.

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 **29 March 2024**.

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.

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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.