



Small Modular Reactor Regulators' Forum Educational Workshop on Regulatory Challenges in Small Modular Reactors

Hosted by the

Government of the Republic of South Africa

through the

Centre for Nuclear Safety and Security (CNSS)

Cape Town, South Africa

2–6 June 2025

Ref. No.: EVT2404046

Information Sheet

Introduction

The Small Modular Reactor (SMR) Regulators' Forum is a regulator-to-regulator group. Its Terms of Reference states that the purpose of this Forum is to identify, enhance understanding of and address key regulatory challenges that may emerge in SMR regulatory discussions. This will help enhance safety and efficiency in SMR regulation, including licensing, and enable regulatory bodies to inform changes, if necessary, to their requirements and regulatory practices. The IAEA is functioning as the Scientific Secretary to promote and facilitate the Forum's activities. In 2019, the Steering Committee of the SMR Regulators' Forum decided to disseminate the identified regulatory challenges related to SMRs and its common positions to embarking countries through educational workshops.

SMRs offer a viable alternative to larger nuclear power reactors due to their smaller size and potential inherent safety characteristics. In terms of political and financial commitments required, SMRs can be built in larger numbers, more quickly and in remote locations throughout the world. For these reasons, SMRs might represent a more attractive option to both embarking countries and countries expanding their existing nuclear power programmes. These countries have varying capabilities — ranging from no nuclear experience to experience with laboratory scale nuclear facilities and industrial applications, the operation of research reactors or the handling of radioactive material in large amounts. In this context, they may struggle with the licensing of SMRs due to uncertainties regarding applicable safety requirements, which, at present, focus mainly on the reactor designs commercially deployed. National

safety requirements need to consider the specific features of SMRs and the application of a graded approach to existing safety requirements. According to the IAEA Safety Standards, from the earliest phase of the development of safety infrastructure, the prime responsibility for safety rests with the prospective facility operating organization. The government, on the other hand, is required to establish an effective governmental, legal and regulatory framework to support a high level of safety.

As design and deployment activities related to SMRs around the world are progressing, the workshop will provide insights into the discussions held during the SMR Regulators' Forum meetings over the last three phases of its work. Regulatory bodies' staff participating in the workshop will benefit from the exposure to the common positions developed by the Forum's working groups, thus clarifying regulatory views regarding SMR safety demonstration proposals and regulatory practices that may need to be re-evaluated. The workshop programme will be supplemented by presentations on the current SMR technologies and country-specific presentations by invited expert members of the SMR Regulators' Forum and will provide an ample opportunity for information and experience exchange between the lecturers and the participants, as well as among the participants themselves.

Objectives

The purpose of the workshop is to share the challenges associated with regulation of small modular reactors (SMRs) and approaches to overcoming them, including possible changes to regulatory requirements and practices based on the common positions developed by the SMR Regulators' Forum.

Target Audience

This workshop is intended for the regulatory bodies of countries embarking on a nuclear power programme or countries considering expanding their nuclear power programmes and considering the deployment of SMRs in the medium term.

Working Language(s)

English.

Topics

The following topics will be covered during the workshop:

- Introduction to the SMR Regulators' Forum, its activities and outputs;
- Applicability of the IAEA Safety Standards to SMRs;
- Overview of SMR technologies;
- The IAEA initiatives on SMRs, including NHSI collaborative work;
- Application of Defence-in-Depth and Graded Approach to SMRs;
- Emergency Planning Zone for SMRs;
- Licensing process challenges related to SMRs:
 - Key regulatory interventions;
 - First-of-a-Kind (FOAK) vs Nth-of-a-Kind (NOAK) designs;
 - Licensing of multiple module/unit facilities; and

- Process for leveraging other regulatory bodies' reviews and for cooperative reviews.
- Design and Safety Analysis for SMRs:
 - Multi-unit, multi-module aspects of SMRs;
 - Considerations in the use of passive and inherent safety features in SMR designs;
 - Aspects of beyond design basis analysis relevant to SMRs;
 - Integrated approach among Safety, Security and Safeguards (the 3S); and
 - Consideration of confinement/ containment systems for non-water cooled SMRs.
- Manufacturing, construction, commissioning, operations issues:
 - Manufacturability, supply chain management and commissioning of SMRs;
 - Collection and Use of Experience in the Lifecycle of Small Modular Reactor facilities;
 - Conduct of Maintenance in an SMR;
 - Conduct of Co-activities and Combined Activities on a Multiple Unit SMR Facility Site;
 - Regulatory Considerations in Pre-Licensing Engagement for Long-Lead Requests and Items (LLI); and
 - Conduct of Authorized Activities: Impact on Stakeholders' Organizational Capabilities (Designers, Vendors, Manufacturers, Supply Chains, Operators).

A half-day visit to a nuclear facility will also be organized.

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 invited 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 **1 April 2025**. 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. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

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 **1 April 2025**.

Venue

The event will be held in Cape Town, the Republic of South Africa.

Visas

Participants who require a visa to enter South Africa should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of South Africa.

Organization

Scientific Secretary:

Mr Brett Rini

Division of Nuclear Installation Safety
Department of Nuclear Safety and Security
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 26552
Fax: +43 1 26007
Email: B.Rini@iaea.org

Administrative Secretary:

Ms Maria Gonzales Larrain

Division of Nuclear Installation Safety
Department of Nuclear Safety and Security
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 24287
Fax: +43 1 26007
Email: M.Gonzales-Larrain@iaea.org

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.

Participation Form

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2 to 6 June 2025

To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary, Mr Brett Rini, Division of Nuclear Installation Safety, Department of Nuclear Safety and Security (Email: B.Rini@iaea.org) and to the Administrative Secretary, Ms Maria Gonzales Larraín (Email: M.Gonzales-Larrai@iaea.org).

Deadline for receipt by IAEA through official channels: 1 April 2025

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel. (Fax):		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	

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Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yyyy/mm/dd):	Nationality:	

1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended	
			from	to

2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years attended	
			from	to

3. Description of work performed over the last three years:

4. Member State's programme in field of event:

Date: _____ **Signature of applicant:** _____

Date: _____ **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority**
