IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Educational Workshop on Regulatory Challenges in Small Modular Reactors

Hosted by the

Government of Morocco

through the

Moroccan Nuclear and Radiation Safety and Security Agency (AMSSNuR)

Rabat, Morocco

9-13 October 2023

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Information Sheet

Introduction

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

SMRs offer a viable alternative to larger nuclear power reactors due to their smaller size and potential inherent safety characteristics. In terms of needed political and financial commitments. 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. Those States 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, States 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 take into account the specific features of SMRs and the application of Graded Approach to existing safety requirements.

As design and deployment of SMRs around the world, and the maturity of technologies are at an early stage, the workshop will provide an insight in the discussion held during the SMR Regulators' Forum meeting. Regulatory bodies' staff participating in the WS will benefit from the conclusions of such discussions, thus clarifying regulatory views regarding SMR safety case proposals and regulatory practices that need to be revaluated. The workshop will be supplemented by presentations on the current SMR technologies and country-specific presentations by invited experts' members of the SMR Regulators' Forum.

Objectives

The purpose of the workshop is to enhance the knowledge of Member States regulatory bodies on challenges identified by members of the Forum in regulating Small Modular Reactors and to inform changes, if necessary, to their requirements and regulatory practices.

Target Audience

This workshop is intended for regulatory staff and experts from 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. This workshop is intended for regulatory staff and experts from 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)

French and English

Topics

The following topics will be covered during the workshop:

- Legal and regulatory framework for safety and functions and responsibilities of a regulatory body;
- Different designs of SMRs
- 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
- 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
- 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
- Work of the FORUM from January 2021 (Phase 3)

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 **18 August 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 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.

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 **18 August 2023**.

Venue

Rabat, Morocco. A one-day visit to the MA-R1 research reactor site will be included.

Visas

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

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.