

Phases and topics

Phase 1 (Pilot) of the Forum was launched in March 2015 to demonstrate the ability to produce meaningful cooperative outputs. The Forum WGs studied how emergency planning zones, the principles of graded approach and defence-in-depth should be applied to SMRs.



During Phase 2, topics on licensing issues, design and safety analysis, and manufacturing, construction, commissioning and operation issues were developed.

In Phase 3, Forum WGs considered: the integration of safety, security and safeguards (3S) in SMR designs; the impact on defence-in-depth due to containment features of advanced non-light water SMRs; and the implications of long-lead procurement, as well as the impact on the conduct of authorized activities by licensees in the case of SMRs.

In August 2022, the Forum joined the IAEA Nuclear Harmonization and Standardization Initiative (NHSI) to lead the Regulatory Track WG3, tasked with developing processes for leveraging other regulatory bodies' reviews and for enabling them to work together when performing reviews.

Launched in 2024, Phase 4 addresses several topics, such as: mechanistic source terms; 3S topics; manufacturing and deployment in the absence of a licensee; construction oversight; and organizational capability of a new licensee (with no prior nuclear experience).



Reports

Phase 1 is covered in the following report:

- Pilot Project Report with appendices on:
 - Graded Approach
 - Defence-in-Depth
 - Emergency Planning Zone

Phase 2 is covered in the following reports:

- Forum Phase 2 Summary Report
- Report from WG on Licensing Issues
- Report from WG on DSA
- Report from WG on MCCO

Phase 3 is covered in the following reports:

- Forum Phase 3 Summary Report
- Containment Systems
- Safety, Security and Safeguards from a Regulatory Perspective: An Integrated Approach
- Regulatory Considerations in Pre-Licensing Engagement for Long Lead Item Requests
- Conduct of Authorized Activities Impact on Stakeholders' Organizational Capabilities (Designers, Vendors, Manufacturers, Supply Chains, Operators)



Small Modular Reactor (SMR) Regulators' Forum



24-03184E



Background

The Small Modular Reactor Regulators' Forum (SMR RF) was established in 2014 as a regulator-to-regulator entity driven by its members. It was created to address SMR-related regulatory issues and provide a platform for Member States and other stakeholders to share relevant regulatory knowledge and experience.

Objectives

- Develop common positions based on identification and discussion of key safety issues that may challenge regulatory reviews associated with SMRs and, if possible, approaches for their resolution
- Encourage enhanced nuclear safety and security
- Foster international cooperation among regulatory bodies performing SMR-related assessments
- Facilitate efficient, robust and thorough regulatory decisions
- Advise the IAEA on the need for revision or development of publications on the safety and security of SMRs.

Outcomes

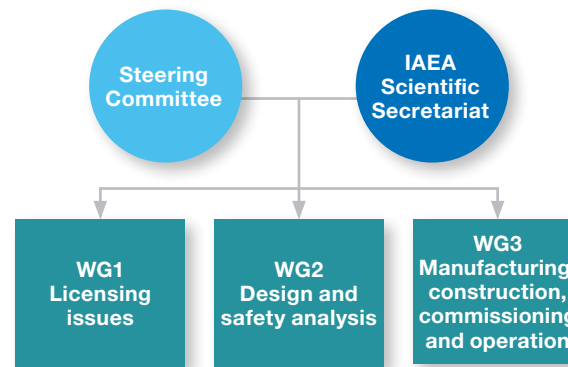
The activities of the Forum lead to the following outcomes: development of common position statements on regulatory issues, information sharing, discussions on regulatory challenges and potential solutions, and recommendations regarding IAEA publications.

The key findings and common positions developed by the Forum are reflected in its reports. The Forum reports are publicly available on the Forum's official webpage. Additionally, they are disseminated through webinars and during the Forum regional educational

workshops aimed at regulatory bodies in countries embarking or expanding the nuclear programme and considering deploying SMRs.

Organizational structure

As the Forum Scientific Secretariat, the IAEA is responsible for supporting the Forum Steering Committee and its Working Groups (WGs) in achieving the Forum's objectives.



Licensing issues (LI) WG: addresses issues related to regulatory approaches for the licensing of SMRs, including key regulatory interventions and international regulatory cooperation.

Design and safety analysis (DSA) WG: addresses issues related to the safety demonstration of designs, including the consideration of fundamental safety functions and key design requirements, the integration of safety, security and safeguards and the safety analysis approaches for SMRs.

Manufacturing, construction, commissioning and operation (MCCO) WG: addresses issues related to the manufacturing, construction, commissioning, operation and maintenance of SMRs, including long-lead procurement items and the organizational capability of stakeholders involved in the deployment of SMRs.

Membership

As of 2024, Forum membership stands at 12 members from the following IAEA Member States: Canada, China, Czechia, Finland, France, Japan, Republic of Korea, the Netherlands, Russian Federation, South Africa, the United Kingdom and the United States.

Ways to participate

Membership of the Forum is open to all IAEA Member States able to contribute in a meaningful manner to the work of its WGs. The work being conducted is generally of a complex nature with a focus on SMRs that requires experience in various areas of nuclear safety, and in regulatory (including licensing) activities.

Membership presupposes a commitment to devote adequate resources to ensure that the Forum's purpose and objectives can be fully achieved.

The Forum may grant observer status to international and regional organizations. Currently, there are three permanent observers: the European Commission, the Nuclear Energy Agency of the Organisation for Economic Cooperation and Development (OECD NEA), and the Cooperation in Reactor Design Evaluation and Licensing WG of the World Nuclear Association (WNA-CORDEL).

Webpage

For more information on the Forum, its reports, webinars, workshops and newsletters, please visit: www.iaea.org/topics/small-modular-reactors/smr-regulators-forum



Contact us

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