



Technical Meeting on the Harmonization and Use of Industrial Codes and Standards for Small Modular Reactors

IAEA Headquarters, Vienna, Austria
and virtual participation via Cisco Webex

11-15 December 2023

Ref. No.: EVT22205117

Information Sheet

Introduction

There are currently more than eighty (80) designs of small modular reactors (SMRs) technology from major technology lines under different phases of development and deployment globally. SMR designs have varied technology readiness levels, as reported in the IAEA publication entitled *Advances in Small Modular Reactor Technology Developments – A supplement to IAEA Advanced Reactors Information System (ARIS), 2022 Edition*.

SMRs are developed based on varying codes & standards (C&S) and encounter to a varying extent first of a kind (FOAK) design challenges. In June 2022, the IAEA launched the Nuclear Harmonization and Standardization Initiative (NHSI) for the effective global deployment of more standardized fleets of safe, secure and economic advanced nuclear reactors, particularly SMRs. The NHSI comprises two separate but complementary tracks. The first track is for regulators. The other track is for industry which includes both technology holders and operators. Both tracks are to develop a joint workplan through 2024. The regulatory track agreed to work on an international pre-licensing regulatory review and on leveraging other regulators reviews in licensing for generic designs following an internationally agreed process and criteria. The industrial track agreed to work on the following four (4) topics:

1. Harmonization of high-level user requirements;
2. Common approaches on codes and standards;
3. Experiments and simulation codes validation;
4. Accelerating the implementation of a nuclear infrastructure for SMRs.

Within the industry track, the planning on common approaches on C&S was set up with the key objective of identifying the scope of information sharing and depth of the effort and stakeholders needed to find potential solutions. A special topical group 2 (TG2) was formed within the NHSI Industrial track to make progress on them.

The work plan of TG2 is based on the feedback received from the NHSI kick-off event in June 2022 and a plenary on June 2023. It also considered the recommendation from the IAEA Technical Working Groups – TWG SMRs and TWG NPP Operations in the Department of Nuclear Energy. Similarly, outcomes of other relevant meetings, including the Technical Meeting on Codes and Standards for SMRs held in May 2022 were incorporated. The work of NHSI Topical Group 2 (TG2) on Common Approaches on C&S has progressed with five consultancies in 2023 and this TM represents an interim reporting and feedback milestone to TG2.

Objectives

The purpose of the event is to bring together operators, suppliers and regulators to advance the use of industrial codes and standards for small modular reactors and to share information about these codes and standards with the representatives of Member States as a part of the NHSI.

A special objective is to present and discuss the early deliverables of the NHSI Industrial Track TG2 work. Also, the purpose of the event is to also provide a forum for the international exchange of current issues, experiences and lessons learned in Member States and through the activities of other international organizations and non-governmental organizations in the area of C&S for near-deployment SMRs and other advanced reactors.

Scope

It is planned to discuss the whole NHSI Industrial Track TG2 scope (shown below) during the TM.

I. CODES AND STANDARDS FOR USE IN SMRs

- I. A Quality and management system standards used widely in the member states (applicable to SMRs)
- I. B Engineering standards for the design and construction of SMRs (World Nuclear Association leading)
- I. C Equipment qualification standards for nuclear facilities
- I. D C&S used in various SMRs (and their projects)
- I. E C&S for advance manufacturing (am) to be used for SMRs (and their projects)

II. OVERSIGHT AND ACCEPTANCE ISSUES RELATED TO C&S

- II. A Use of standard, proven serially manufactured industrial/commercial-grade items
- II. B Non-nuclear codes, standards, law and regulations relevant to SMR deployment
- II. C Oversight activities required by codes, standards, law and regulations

Secondly, the event aims at:

- Exchanging information on the challenges and solutions related to different C&S for SMRs and also applicable to other near-term deployment reactors
- Monitoring progress made in other international activities related to codes and standards, design engineering, testing and manufacturing of components for SMRs;
- Identifying and discussing key enabling environment to enable harmonization, including addressing manufacturer quality assurance and acceptance of structures, systems and components;
- Discussing the TG2 information sharing platform and potential other deliverables and spin-offs of TG2;
- Discussing coordination with the NHSI Regulatory Track; and
- Any other issues that are considered as important from C&S for near-deployment reactors.

Target Audience

The event is intended for representatives of Member States that consider building an NPP with SMR options, or to those that are building one, as well as for individuals from international organizations involved in the development and/or promotion of codes & standards (C&S) and supply chain management related documents and activities especially dealing with SMRs.

Nuclear power engineers, experts on SMR designs and technologies, experts of codes and standards, supply chain management, manufacturing, and construction technology – expressing interest to participate in the Industry Track, TG2 on Common Approaches to Codes and Standards for SMRs and its different activities listed under objectives.

Working Language(s)

English.

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 **15 September 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 regarding 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 event will include invited presentations on the topics of NHSI Industrial track TG2. The IAEA also encourages participants to propose presentations on the work of their respective institutions that falls under the topics listed above, and they will be included subject to the availability of space in the programme. Participants who wish to give 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 1 page (including figures and tables) and should not exceed 500 words. It should be sent electronically to the Scientific Secretaries, Mr Pekka Pyy and Mr. Hadid Subki (see contact details below in the IAEA Contacts section), for review and incorporation into the meeting agenda not later than **15 September 2023**. Authors will be notified of the acceptance of their proposed presentations by **10 November**.

In addition, participants have to submit the abstract together with the **Participation Form (Form A)** [optional: and the attached **Form for Submission of a Paper (Form B)**] 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 **Submission Deadline**.

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 (please, also observe the planned hybrid format).

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 **15 September 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:
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.

The virtual component of the event is tentatively planned to be held via IT platform WebEx. The virtual component may not be available for all the parts of the event, and the organisers reserve the right for cancelling it subject to the circumstances.

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 Secretaries and correspondence on other matters related to the event to the Administrative Secretary.