



Technical Meeting on the Safety Aspects of the Construction of Nuclear Installations with a Focus on the Forthcoming Update of Specific Safety Guide SSG No. 38

IAEA Headquarters, Vienna, Austria
and virtual participation via Microsoft Teams

14-18 December 2026

Ref. No.: EVT2503545

Information Sheet

Introduction

Requirement 11 of IAEA Specific Safety Requirement No. SSR 2/1 (Rev.1), Safety of Nuclear Power Plants: Design, states that **“Items important to safety for a nuclear power plant shall be designed so that they can be manufactured, constructed, assembled, installed and erected in accordance with established processes that ensure the achievement of the design specifications and the required level of safety.”**

Experience has shown that compliance at the design stage alone does not ensure a high level of safety. The quality of manufacturing and construction processes remains essential. Deficiencies arising during these processes, such as deviations from specifications or insufficient workmanship, may not be fully identified during commissioning.

IAEA Specific Safety Guide SSG-38, Construction for Nuclear Installations (issued in 2015), provides internationally accepted recommendations on the management of safe construction activities for new or modified nuclear installations. The guide highlights the importance of regulatory oversight, management system for construction, effective management of construction activities, and strong quality assurance to ensure that the safety intent of the design is preserved throughout construction.

In recent years, nuclear power programmes have expanded, with a significant number of reactors under construction worldwide. In parallel, significant progress has been made in the development of advanced nuclear reactors, including non-water-cooled reactors. These advanced nuclear reactors often use compact or integral architectures, make use of modularity and modularization concepts, and rely on advanced manufacturing technologies that aim to improve manufacturability and deployment speed. Alongside their potential benefits, these innovations may also introduce new construction and quality assurance considerations, for example in areas such as supply chain readiness, interfaces management, control of design information, design modifications, module fabrication, transport and assembly, inspection methods, verification of advanced manufacturing processes, and testing of construction activities.

Therefore, reviewing current good international practices and lessons learned from recent construction projects, as well as insights from future projects under development, remains essential to ensuring a high level safety during construction. At the same time, understanding the specific challenges associated with modular construction approaches and advanced manufacturing technologies is increasingly important as the global nuclear landscape evolves.

Objectives

The purpose of this event is to facilitate the exchange of information among Member States on good international practices and lessons learned from recent nuclear construction projects.

This event will also provide a forum to compile knowledge, information and experience to support the forthcoming revision of Specific Safety Guide No. SSG-38 based on current practices, experiences and challenges in the manufacturing and construction of nuclear installations.

Target Audience

The event is open to representatives of nuclear power organizations from Member States with an active nuclear power programme, including those from embarking countries in Phase 3 of their nuclear programme, and Member States with large expertise in the manufacturing and construction of nuclear installations.

Participants may include representatives from government organizations (policy makers, analysts, regulatory bodies, technical support organizations and R&D agencies), and industry (vendors, plant operation organizations, engineering companies, construction organizations, manufacturing suppliers and technology developers).

Working Language(s)

English.

Expected Outputs

The event will contribute to the identification of areas in SSG-38 requiring clarification, enhancement or further development, based on the experience shared by Member States. It will provide an important input to the forthcoming revision of SSG-38.

The event will also provide participants with an overview of key recommendations in SSG-38 and their practical application, including associated challenges and lessons learned.

Topics

Participants are invited to share their experiences and provide presentations on the current practices, experiences and lessons learnt related to manufacturing and construction of nuclear installations. The programme is intended to cover the following topics:

Topic 1: Application of SSG-38 in construction of large water-cooled reactors

This topic aims to assess how Member States currently apply SSG-38 during construction of large water-cooled reactors and to identify areas where clarification or additional guidance is needed. The focus areas are as follows:

- Planning and sequencing of construction activities, including integration of procurement and design maturity prior to first nuclear concrete, and management of interfaces;
- Design information configuration control, including traceability and configuration management, and the use of digital platforms;
- Management of nonconformances and related coordination among stakeholders, including the regulatory body, the licensee, contractors and suppliers;
- Integration of construction experience and lessons learned into construction management, supporting continuous improvement;
- Application of graded approach based on safety importance;
- Gaps in the current version of SSG-38 when applied to well established and mature reactor technologies.

Topic 2: Safety challenges during construction, and differences for advanced reactor technologies

This topic aims to identify the relevant safety considerations associated with construction approaches for advanced reactor technologies involving modularization and modular designs. The focus areas are as follows:

- Translation of design and safety requirements for modular and novel components into procurement specifications and acceptance criteria;
- Integration of manufacturing and construction processes considering the increased use of factory manufacturing and on-site assembly;
- Control of design information and interfaces between modules and other site-installed systems, including cumulative tolerances and alignment during assembly;
- Management of deviations, nonconformances and corrective actions arising from factory-manufactured modules or partially assembled safety-related components during fabrication, transport and installation;
- Coordination of factory production, transport and site work;
- Testing and verification at factory and site levels.

Topic 3: Safety considerations for advanced manufacturing and construction technologies

This topic aims to examine how emerging manufacturing and construction technologies can be safely incorporated into the construction of nuclear installations and how SSG-38 needs to reflect these practices. The focus areas are as follows:

- Supply chain readiness;
- Inspection, verification and testing methods, including non-destructive examination techniques, appropriate acceptance criteria and approaches for novel fabrication processes;
- Qualification of advanced manufacturing or construction processes, including requirements for process qualification, repeatability, and monitoring.

Topic 4: Regulatory oversight practices for construction

This topic aims to share experience and good practices related to regulatory oversight during construction. The focus areas are as follows:

- Inspection and assessment of safety-related construction activities.
- Regulatory oversight of manufacturing facilities and activities: Inspection and assessment of manufacturing processes and facilities involved in modularization.
- Establishment of hold points, acceptance criteria associated with advanced manufacturing and construction technologies.
- Verification of readiness before key milestones (e.g. first nuclear concrete)
- Oversight of handling, transport, storage, preservation, temporary works and maintenance of modules.

At the end of the event, a summary session will be organized to consolidate the areas where SSG-38 may require strengthening, modernization, or further elaboration. This will be based on the discussions held under Topics 1 to 4, considering current construction experience and emerging technologies.

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 or invited organization, participants are requested to submit their application via the InTouch+ platform (<https://intouchplus.iaea.org>) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **25 September 2026**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (<https://intouchplus.iaea.org>):
 - Persons with an existing NUCLEUS account can sign in to the platform with their username and password;
 - Persons without an existing NUCLEUS account can register [here](#).
2. Once signed in, prospective participants can use the InTouch+ platform to:
 - Complete or update their personal details under ‘Complete Profile’ and upload the relevant supporting documents;

- Search for the relevant event under the ‘My Eligible Events’ tab;
- Select the Member State or invited organization they want to represent from the drop-down menu entitled ‘Designating Authority’ (if an invited organization is not listed, please contact InTouchPlus.Contact-Point@iaea.org);
- If applicable, indicate whether a paper is being submitted and complete the relevant information;
- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
- Based on the data input, the InTouch+ platform will automatically generate the Participation Form (Form A) and/or the Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **25 September 2026**.

For additional information on how to apply for an event, please refer to the [InTouch+ Help](#) page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and technical 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. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

Abstracts and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above.

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 2 pages (including figures and tables) and should not exceed 500 words. It is expected to be submitted through InTouch+, and a copy should be sent electronically to the Scientific Secretaries of the topical event (see contact details below), not later than **25 September 2026**. Authors will be notified of the acceptance of their proposed presentations by **6 November 2026**.

Submission of an abstract should be confirmed, together with the submission of the main application via the InTouch+ platform, by **25 September 2026**.

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 a limited number of 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, together with the submission of the application, by **25 September 2026**.

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

Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:

www.iaea.org/events/EVT2503545