IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Regional Training Course on Safety Analysis for Research Reactors

Hosted by the
Government of the Republic of Türkiye

through the
Istanbul Technical University

Istanbul, Türkiye

18 – 22 May 2026

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Information Sheet

Project Background

Since 2026, the IAEA Department of Technical Cooperation (TC) has launched a regional project in Europe, RER1025: *"Enhancing Utilization, Operation, and Safety of Research Reactors"*. It aims to enhance Member States' utilization, operation and safety of research reactors in the Europe and Central Asia region through sustained regional collaboration, knowledge exchange and capacity building in compliance with the Code of Conduct on the Safety of Research Reactors and the International Atomic Energy Agency (IAEA) Safety Standards.

Scope and Nature

Safety assessment for authorizing a research reactor can be extensive. It can be an iterative process during the siting and design stages, confirming that the design meets acceptance criteria. Prior to the construction phase, the main safety assessment activities support the preparation of the safety analysis report (SAR) and supporting documents and their submission for review by the regulatory body. Safety analysis plays a central role in the safety assessment. It is conducted to evaluated and assess the potential hazards associated with all stages of the lifetime of research reactors. IAEA Safety Standards Series No. GSR Part 4 (Rev. 1), Safety Assessment for Facilities and Activities (2016), established generally applicable safety requirements to be fulfilled in safety assessments, with special attention paid to the application of a graded approach to the ranges of facilities and of activities.

IAEA Safety Standards Series No. SSR-3, Safety of Research Reactors (2016), provides specific safety requirements for conducting safety analyses of research reactors. It requires the use of deterministic methods, complemented by probabilistic analysis as appropriate. Safety analysis is required for operational states, including normal operation and anticipated operational occurrences, as well as for accident conditions, including design basis accidents and design extension conditions.

IAEA Safety Standards Series No. SSG-20 (Rev. 1), Safety Assessment for Research Reactors and Preparation of the Safety Analysis Report (2022), offers detailed guidance on developing safety analysis. It describes major steps such as identifying and categorizing postulated initiating events, evaluating event sequences, and comparing results against established acceptance criteria. The safety guide also emphasizes the analysis of design extension conditions, particularly in light of lessons learned from the Fukushima Daiichi nuclear accident.

The participating Members States of RER1025 recognized the importance of safety assessment of research reactors and agreed to organize a regional training course on this topic. The emphasize is placed on the methods of comprehensive deterministic safety analysis, complemented by probabilistic safety assessment as appropriate. Istanbul Technical University agreed to host this training course in Istanbul, Türkiye, from 18 to 22 May 2026.

The following technical topics will be covered in this training course:

- General considerations in the safety analysis
    - Facility states
    - Deterministic safety analysis
    - Probabilistic safety assessment
    - Computational tools
    - Acceptance criteria
- Safety analysis for normal operation
    - Nuclear design
    - Thermal-hydraulic design
- Safety analysis for accident conditions
    - Identification and evaluation of postulated initiating events
    - Analysis for design basis accidents
    - Analysis for design extension conditions
- Application of safety analysis
    - Classification and qualification of structures, systems and components

- Derivation of operational limits and conditions
- Utilization and modification, including core management
- Ageing management

Purpose of the Event

The purpose of the event is to provide the regional participants with practical information based on the IAEA Safety Standards on the safety assessment of research reactors by means of comprehensive deterministic safety analysis and complementary probabilistic safety assessment.

The event is also aimed at providing the regional participants with a forum to share experience on the safety assessment of research reactors in accordance with the IAEA Safety Standards.

Target Audience

The meeting is open to the following Member States participating in the regional TC project RER1025 "*Enhancing Utilization, Operation and Safety of Research Reactors":* Azerbaijan, Belarus, Bulgaria, Czech Republic, Georgia, Greece, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Tajikistan, Türkiye, Ukraine and Uzbekistan.

It is intended for individuals from Member States with a research reactor facility or from Member States that have initiated a new research reactor project.

The IAEA will support the cost of **up to 2 participants per Member State**. Candidates to be supported by the IAEA should follow the below mentioned application procedure.

Working Language

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 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 **23 Marvh 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 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).
   - 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.

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 financial matters.

Deadline for Nominations

Nominations received after **23 March 2026** will not be considered.

Venue

The event will be held in Istanbul, Türkiye. More detailed information will be provided to the registered meeting participants.

Visas

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

Organization and IAEA Contacts

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