IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Interregional Workshop on Advances in Fast-neutron Spectrum and Gen IV type SMR Designs and Safety Feasibility

Hosted by

The Government of China

through the

China Institute of Atomic Energy (CIAE)

Beijing, China

19 to 23 October 2026

Ref. No.: ME-INT2025-2506070

Information Sheet

Purpose

The purpose of the event is to discuss and share experience on the innovative designs of Small and Medium Sized or Modular Reactors （SMRs） within the framework of the six concepts outlined by the Generation-IV International Forum （GIF） and their safety features.

Working Language(s)

The working language(s) of the event will be **English**.

Deadline for Nominations

Nominations received after **31 July 2026** will not be considered.

Project Background

Small modular reactors (SMRs) are advanced nuclear reactors typically designed to generate electric power up to 300 MWe, the structures, systems and components of which can be fabricated in factories and transported to the installation site, shortening construction duration and reducing cost. Clean energy strategy advocates for the deployment of advanced nuclear reactors as a safe, reliable, flexible and competitive power source. SMRs based on different technologies, along with their various applications, are a promising option for near term and future deployment in Member States. The purpose of the project is to provide broad support to build Member States' capacities for development and deployment of SMRs in the context of a clean energy strategy. The project will provide a wide range of forums to enable effective capacity building through training and technology transfer on all aspects of SMR development, including siting, design, and technology; engineering, manufacturing, construction, industrial supply chain, commissioning, operation, maintenance, and human resource management; fuel cycle; waste management; decommissioning; economics; financing; energy sustainability, nuclear safety, security and safeguards; emergency preparedness and response arrangements; and legal framework.

Scope and Nature

During the five-day workshop, selected participants will receive lectures from international experts from the IAEA, China, and other IAEA Member States, and they will also actively engage in interactive discussions. The workshop will provide participants with a theoretical foundation in the most crucial research and technology development areas of innovative reactors and energy systems, as well as safety considerations and familiarity with modern physical models and simulation codes for the design and safety analysis of innovative nuclear reactors of SMR types, specifically sodium cooled fast reactors, lead cooled fast reactors, high temperature gas cooled reactors, and molten salt reactors.

In this Interregional Workshop on "Advances in Fast-neutron Spectrum and Gen-IV type SMR Designs and their Safety Features" hosted by the Government of People's Republic of China, participants will learn the state-of the art of technology in the following areas: (i) sodium cooled fast neutron SMRs, (ii) heavy liquid metal cooled fast neutron SMRs, (iii) molten salt SMRs, (iv) gas cooled SMRs, (v) safety aspects of innovative technologies and (vi) technology and research in support of SMR development. Three group discussions — on (i) in-factory construction, (ii) technological challenges to be resolved and (iii) benefits of Gen-IV SMRs including market needs will provide a comprehensive understanding of the most relevant topics in this area.

Active discussions, group activities, poster sessions, and various blended learning approaches will enhance the sharing of new ideas and emphasize the need for continued R&D and innovation in all areas of innovative SMRs.

The hosting organization will provide technical tours for participants to the Fast-neutron Spectrum SMR.

In addition, the workshop will provide opportunities for participants to network and continue sharing information and good practices as well as other potential follow-up tasks and coordinated activities, as appropriate.

Expected outputs

The expected outputs of the workshop are:

- Enhanced understanding of the theoretical foundations and key research areas in innovative nuclear energy systems.
- Understanding of the main safety features of innovative nuclear energy systems.
- Familiarity with modern physical models and simulation codes for the design and safety analysis of advanced nuclear reactors of SMR types.
- Increased engagement and stimulation of young scientists, researchers, and engineers in the field of nuclear reactors research.
- Improved comprehension of the Gen-IV conceptual reactor designs, their scalability to SMRs, and the benefits and challenges associated with different coolants and technologies.

Participation

The event is open to up to 30 participants from the following Member States participating in the TC Project: Algeria, Armenia, Bolivia, Brazil, Bulgaria, Croatia, Czech Republic, Egypt, El Salvador, Estonia, Ethiopia, Georgia, Ghana, Greece, Guatemala, Hungary, Jamaica, Jordan, Kazakhstan, Kyrgyzstan, Libya, Madagascar, Malaysia, Mexico, Morocco, Myanmar, Nigeria, Pakistan, Peru, Philippines, Poland, Romania, Rwanda, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Sri Lanka, Thailand, Türkiye, United Republic of Tanzania, Uzbekistan, Zambia.

At no cost to the IAEA, participants from following countries can also be considered: Belgium, Canada, China, Denmark, Finland, France, Italy, Japan, Korea, Republic of, Russian Federation, Spain, United Kingdom, United States of America.

Participants' Qualifications and Experience

The target participants for this workshop include individuals, especially young scientists, researchers, and engineers currently involved in nuclear reactor research, prospective owner/operator organizations/ developers/ regulatory bodies/ potential users, who are interested in understanding the key benefits and challenges associated with innovative Gen-IV SMRs and related technologies. Candidates are required to submit a motivation letter detailing how the workshop could benefit their current or future job positions. Additionally, all applicants are required to provide a title and a brief abstract of the poster presentation related to one of the Gen-IV reactor designs or relevant topics.

The activities will be conducted in English and candidates should have sufficient English proficiency to participate in the workshop without difficulty.

Accepted participants will need to prepare a poster for presentation during the workshop poster session and read the following reference to get the most out of the event:

- INTERNATIONAL ATOMIC ENERGY AGENCY, Small Modular Reactors: A New Nuclear Energy Paradigm
- Generation IV Systems
- INTERNATIONAL ATOMIC ENERGY AGENCY, IAEA-TECDOC-1936, Applicability of Design Safety Requirements to Small Modular Reactor Technologies Intended for Near Term Deployment, Vienna (2020)

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (https://intouchplus.iaea.org) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (https://websso.iaea.org/IM/UserRegistrationPage.aspx) before proceeding with the event application process below.

2. On the InTouch + platform, the candidate must:
    a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
    b. Download and complete the Designation of Beneficiary and Emergency Contact Form, and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step; and
    c. Search for the relevant technical cooperation event (EVT2506070) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required

authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline. **All nominations must include a scan of the candidate's first page of passport with photo.**

For additional support on how to apply for an event, please refer to the InTouch+ Help page. Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Should online application submission not be possible, candidates may download the nomination form for the meeting from the IAEA website.

NOTE: A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency AX Travel Management, or a travel allowance, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

NOTE: The event will be hosted by the Government of People's Republic of China, therefore nominated participants who require a visa to enter China should submit the necessary application to the nearest diplomatic or consular representative of China as soon as possible.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

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