



Technical Meeting on HEU/LEU Conversion, Operation and Utilization of MNSR and SLOWPOKE Research Reactors

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

10-12 August 2026

Room M5

Ref. No.: EVT2503767

Information Sheet

Introduction

The **SLOWPOKE reactor (Safe Low-Power Kritical Experiment)** is a small research reactor developed in Canada in the 1960s. Its defining feature is its strong inherent stability, which significantly reduces susceptibility to accidents or core damage. The first operational unit, SLOWPOKE-1, began operation in Manitoba, Canada, in 1977.

In total, nine SLOWPOKE reactors were constructed. All but one were low-power research reactors operating at approximately 20 kW. The exception was a district-heating demonstration reactor designed for a power level of about 2 MW. The original SLOWPOKE designs used highly enriched uranium (HEU) fuel, enriched to approximately 93% uranium-235. Following the development of a low enriched uranium (LEU) core, three SLOWPOKE reactors continue to operate in Canada and Jamaica, primarily supporting neutron activation analysis (NAA), education, and training.

Closely related reactor systems, known as **Miniature Neutron Source Reactors (MNSRs)**, have also been deployed worldwide. These low-power (~30 kW) neutron source reactors are located at four sites in China and at individual facilities in Ghana, the Islamic Republic of Iran, Nigeria, Pakistan, and the Syrian Arab Republic. Like SLOWPOKE reactors, MNSRs are used mainly for NAA, education, and training. Each originally contained a core with less than one kilogram of HEU, typically enriched to 90% or greater in uranium-235.

Since 1978, various national and international initiatives have focused on converting research and test reactors from HEU to LEU fuel or alternatively shutting down and decommissioning their HEU-fuelled facilities, in accordance with decisions by IAEA Member States. These efforts support the broader objective of reducing—and ultimately eliminating—the civilian use of HEU. In this context, a new LEU core design (<20% enrichment) was developed in 1985 and subsequently implemented in SLOWPOKE reactors.

Building on these global conversion efforts, the MNSR community formally joined the international initiative in 2006 through the launch of an IAEA Coordinated Research Project (CRP) aimed at supporting and coordinating the conversion of MNSRs from HEU to LEU fuel. Through this collaboration, participating institutions demonstrated that MNSR conversion is technically feasible.

As a result of these efforts, China successfully completed the conversion of the first MNSR at the China Institute of Atomic Energy (CIAE) in 2016, followed by conversions in Ghana in 2017 and Nigeria in 2018.

In this context, the IAEA is organizing a meeting to discuss the technical aspects of converting MNSRs and SLOWPOKEs from HEU to LEU fuel, the removal of existing HEU cores, and related issues concerning the operation and utilization of MNSR and SLOWPOKE reactors.

Objectives

The main objective of this meeting is to review progress and share lessons learned from activities related to the conversion of MNSRs and SLOWPOKEs from HEU to LEU fuel, including aspects of fresh and spent fuel transportation, project and supply agreements, and coordination between conversion and HEU removal efforts. Participants will discuss technical solutions for ongoing projects and identify next steps for potential new conversion projects. In addition, the meeting will address operation, utilization, and decommissioning issues associated with the similar designs of MNSR and SLOWPOKE reactors.

Target Audience

The meeting is intended for individuals from IAEA Member States that are operating or decommissioning MNSR and SLOWPOKE reactors, as well as those carrying out efforts to support the conversion of MNSRs and removal of the HEU fuel. Participants should be representatives of the operating staff of the reactors, as well as teams involved in, and responsible for, the MNSR conversion and removal projects, governmental institutions, the national nuclear regulatory bodies, and other stakeholders.

Working Language

The working language of the meeting will be English with no interpretation provided. All communications, abstracts and presentations must be submitted in this language.

Expected Outputs

The expected result of the meeting will be a sharing of experience and information related to operation and utilization of MNSR and SLOWPOKE reactors, as well as a better understanding for all participants of the implementation procedures necessary for the conversion and HEU removal activities for MNSRs. In addition, a meeting report will be prepared that addresses the topics mentioned below, including any action items.

Topics

The following topics will be addressed and discussed during the meeting:

- Preparations for future MNSR conversions, including regulatory and legal considerations;
- Operation of MNSR and SLOWPOKE reactors.
- Utilization of MNSR and SLOWPOKE reactors.
- MNSR and SLOWPOKE operation experience after conversion.
- Training support for MNSR HEU core discharge and packing.
- Decommissioning of MNSR and Slowpoke reactors.

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 **26 June 2026**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (<https://intouchplus.iaea.org>):
 - Persons with an existing NUCLEUS account can sign into 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) 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 **26 June 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 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. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

Papers 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 1 page (including figures and tables) and should not exceed 200 words. It should be sent electronically to Ms Kerry Dunn, the Scientific Secretary of the event (see contact details below), not later than **26 June 2026**. Authors will be notified of the acceptance of their proposed presentations by **10 July 2026**.

Submission of a paper should be confirmed, together with the submission of the main application via the InTouch+ platform, by **26 June 2026**.

A. 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.

The application for financial support should be made, together with the submission of the application, by **26 June 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 Secretary and correspondence on other matters related to the event to the Administrative Secretary.