IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Technical Meeting on the Competitiveness and Early Deployment of Small Modular Reactors and High Temperature Gas Cooled Reactors

IAEA Headquarters
Vienna, Austria

14–15 November 2019

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Information Sheet

Introduction

The International Atomic Energy Agency's (IAEA's) Department of Nuclear Energy has a number of ongoing initiatives to support the development and deployment of small and medium sized or modular reactors. Recently, much attention has been paid to the development of small modular reactors (SMRs), which are generally defined as advanced reactors from major lines and coolant types that produce power up to 300 MW(e). Both water cooled SMRs and high temperature gas cooled reactors (HTGRs) are considered to be near-term deployable.

SMRs also include designs whose components can be shop-fabricated and transported as modules to sites or utilities as demand arises. SMRs have the potential advantage of being able to match increased energy demand by adding incremental capacity with moderate financial commitment for countries with smaller grids and remote or off-grid regions. Some designers propose new technology solutions aimed at significantly reducing costs through modularization, which, in particular, improves the construction schedule. SMRs also have a potential for partial or full use cogeneration for non-electrical applications such as seawater desalination, industrial processes, district heating and in future hydrogen production. This could result in significantly improved thermal efficiency and translate into better returns on investment. The power range of SMRs offers flexibility in generation and siting, and contributes to grid stability.

The positive outlook for SMRs described above, which also applies to HTGRs, has unfortunately not led to the large-scale deployment of these reactor types. The competitiveness of all types of SMRs can be enhanced by innovative designs and applications. These could include, for example, novel power conversion designs with built-in thermal storage, hybrid energy systems in which SMRs and renewables are combined, or safety enhancements that could reduce the costs and number of required operators.

Objectives

The objectives of the event are to:

- Provide a technical exchange forum for Member States to keep abreast of advances in all SMR technology development and enable identification of designs available for near-term deployment;
- Enable Member States to enhance their understanding of specific novel design and technology enhancements to increase the competitiveness and attractiveness of SMRs and HTGRs;
- Discuss specific areas of SMR technology enhancements, novel applications and technical aspects, including unit size, proven technology, standardization, constructability, inspectability and maintainability, nuclear plant safety, project schedule, site and grid considerations, and plant economics; and
- Support embarking countries in addressing their national requirements and technology issues with respect to potential near-term deployment of SMRs and HTGRs.

Expected Outputs

The presentation papers, together with the event outcomes, will be published in an IAEA report.

Target Audience

The event is intended for participants from relevant stakeholder organizations in Member States that are technology holders and/or considering near term or future deployment of SMR or HTGR designs and technologies.

Designated experts should have sound knowledge and experience relating to SMR and/or HTGR designs. The participants should be technical managers or experts involved in planning, establishing and implementing new nuclear power projects, especially those who are in charge of reactor technology assessment and selection. A background in nuclear reactor engineering and technology is essential in order to ensure effective participation in the event.

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 **13 September 2019**. 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 with regard to administrative and financial matters.

Please note that the IAEA is in a transition phase to manage the entire registration process for all regular programme events electronically through the new InTouch+ (https://intouchplus.iaea.org) facility, which is the improved and expanded successor to the InTouch platform that has been used in recent years for the IAEA's technical cooperation events. Through InTouch+, prospective participants will be able to apply for events and submit all required documents online. National authorities will be able to use InTouch+ to review and approve these applications. Interested parties that would like to use this new facility should write to: InTouchPlus.Contact-Point@iaea.org.

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 4 pages (including figures and tables) and should not exceed 3000 words. It should be sent electronically to Mr Frederik Reitsma, the Scientific Secretary of the event (see contact details below), not later than **13 September 2019**. Authors will be notified of the acceptance of their proposed presentations by **7 October 2019**.

In addition, participants have to complete the **Paper Submission Form (Form B)** and submit it with 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) or their organization for onward transmission to the IAEA not later than **13 September 2019.**

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 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 **13 September 2019**.

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: http://www-pub.iaea.org/iaeaevents/GeneralInfo/Guide/VIC.

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.

IAEA Contacts

Scientific Secretary:

Mr Frederik Reitsma
Division of Nuclear Power
Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 22565/22803
Fax: +43 1 26007
Email: F.Reitsma@iaea.org

Administrative Secretary:

Ms Ana Szentirmai
Division of Nuclear Power
Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 22803/22815
Fax: +43 1 26007
Email: A.Szentirmai@iaea.org

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.