



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Technical Meeting on Assessing the Deployment of Small and Medium Sized or Modular Reactors and High Temperature Reactors for Cogeneration Applications

**IAEA Headquarters
Vienna, Austria**

2–4 September 2019

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Information Sheet

Background

Significant progress has been made in various designs of small modular reactors in the recent years. As a result, there has been increased interest in the deployment of small and medium sized or modular reactors (SMRs) in several countries, including newcomers, which are considering the potential of SMRs for cogeneration applications. There has been a special focus on the research and development activities conducted in several Member States with regard to high temperature reactors (HTRs) producing heat at temperatures above 750°C, as well as their applicability for non-electric applications, as they can provide efficient power at very high fuel utilization rates. Reactors operating at such high temperatures are opening the door to a wide range of industrial and other applications requiring high temperatures, such as hydrogen and synthetic fuel production, and steel and petrochemical industrial processes. Even the waste heat produced by such reactors can be used for other low temperature applications such as desalination and district heating and/or cooling. Nuclear power could therefore go

beyond mere power generation and play a broader and more effective role in sustainable development while contributing to climate change mitigation.

Nuclear energy has been successfully used for non-electric applications with more than 750 reactor-years of operating experience, yet this was for some low temperature applications including: district heating, desalination and process heat applications. The modularity merits of SMRs, in that some of the SMR units can be solely devoted to thermal heat production for heat-based applications while others for electric power demand, are of interest of many Member States. This provides a flexible buffer for dynamic operation of nuclear cogeneration plants, thereby eliminating the thermomechanical stresses and financial losses associated with lowering the reactor power rate during periods of low power demand.

Coupling certain industrial applications, especially high temperature ones, to nuclear power plants still poses some technical and non-technical challenges. This, together with the licencing of cogeneration plants, may require specific considerations (and may also require special national regulations to be developed). The existence of qualified human resources with specific expertise is another challenge to the deployment of such projects.

Objectives

The purpose of this event is to assess the potential of small and medium sized or modular reactors (SMRs) and high temperature reactors (HTRs) for multi-purpose applications.

Expected Outputs

The expected outputs of this event are to produce a report on the Technical Meeting summarizing the input of the participants and discussions held during the event on current and future considerations on cogeneration using SMRs and HTRs; collect up-to-date information on relevant activities; and collect information on the current research and development activities related to the topic and identify areas for further investigation.

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 14 July 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 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.

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 **14 July 2019**.

Working Language(s)

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

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.

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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.