

VENUE & ACCOMMODATIONS

The meeting, hosted by the University of Pisa, will be mainly held at the **Centro Ricerca Termica (CRT) of ENEL SpA in Pisa, Italy.**

Delegates should arrange their accommodation directly with their hotels (a list of recommended options will be provided on the meeting website).

An additional fifth day will be set aside for an optional **technical visit** to the **ENEA Brasimone Research Centre.**

Further details of travel arrangements and social events will be provided to participants on the meeting website.

VISAS

Designated participants who require a visa to enter Italy should submit the necessary application form in due time to the nearest diplomatic or consular representative of Italy.

REGISTRATION

There is no registration fee. Please see the meeting website for the participation form and details for abstract submission.

LANGUAGE

The working language of the meeting will be **English**. All communications, abstracts, and papers must be sent in English.

ORGANIZATION

Meeting Chairman:

Dr. Romney Duffey
Atomic Energy of Canada Limited

Meeting Coordinator:

Prof. Walter Ambrosini
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Scientific Secretary:

Dr. Sama Bilbao y León
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Technical Program Committee (TPC):

Dr. Nusret Aksan, Switzerland (Chairman of TPC)
Prof. Derek Jackson, University of Manchester, UK
Dr. Luca Ammirabile, EC/JRC-IE, Netherlands
Dr. Mark Anderson, University of Wisconsin, USA
Dr. Yoon Yeong Bae, KAERI, Republic of Korea
Prof. Xu Cheng, SJTU, China
Dr. Andrey Churkin, Gidropress, Russia
Dr. Shuisheng He, Aberdeen University, UK
Prof. Pei Xue Jiang, Tsinghua University, China
Dr. Laurence Leung, AECL, Canada
Prof. Thomas Schulenberg, KIT, Germany
Dr. Pallippattu Vijayan, BARC, India
Prof. Walter Ambrosini, Università di Pisa, Italy

Local Organising Committee (LOC):

Prof. Sandro Paci, Università di Pisa, Italy
Dr. Nicola Forgone, Università di Pisa, Italy
Prof. Giuseppe Forasassi, CIRTEN, Italy
Ing. Fosco Bianchi, ENEA, Italy
Prof. Paolo di Marco, Università di Pisa, Italy



IAEA

International Atomic Energy Agency



UNIVERSITÀ DI PISA

TECHNICAL MEETING

ON

“HEAT TRANSFER, THERMAL-HYDRAULICS AND SYSTEM DESIGN FOR SUPERCRITICAL WATER COOLED REACTORS”

University of Pisa

Pisa, Italy

July 5-8, 2010

WITH THE SUPPORT OF



MEETING WEBSITE

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=38683>

DEADLINE EXTENDED: MAY 16, 2010

BACKGROUND

There is high interest internationally in both developing and industrialized countries in the design of innovative supercritical water cooled reactors (SCWRs). This interest arises from the high thermal efficiencies and improved economic competitiveness promised by this concept, which utilizes and builds upon the recent developments of highly efficient fossil power plants. The SCWR is one of the six concepts included in the Generation-IV International Forum (GIF).

In support of Member States' efforts in the area of SCWRs, the IAEA started in 2008 a Coordinated Research Project (CRP) on "Heat Transfer Behaviour and Thermo-hydraulics Code Testing for SCWRs". The two key objectives of this CRP are: 1) To establish accurate databases for heat transfer, pressure drop, critical flow, natural circulation, and stability for conditions relevant to supercritical pressure fluids; and 2) To test analysis methods for SCWR thermohydraulic behaviour, and identify code development needs. Annual Research Coordination Meetings take place under the framework of this CRP to assess the progress of the project.

In addition, Member States have expressed an interest in organizing a technical meeting in which specialists in the areas of heat transfer and thermal-hydraulics, thermodynamics and systems design for supercritical water cooled reactors would have the opportunity of participating in extended technical discussions on the details associated to the science and engineering of supercritical water cooled reactor concepts.

OBJECTIVES

The purpose of the meeting is to provide a platform for detailed presentations and technical discussions lead-

ing to exchange of results, fostering world-wide collaboration in research activities, improving the communication between industry (utilities, vendors etc.), regulatory organizations and research organizations, and to review and update the science and engineering of supercritical pressure water cooled reactor concepts.

The meeting will have the following main objectives (with emphasis on application and design issues):

- To review progress in the development of correlations, equations and methods to describe the heat transfer behaviour with fluids under supercritical pressure conditions;
- To evaluate comparisons of analyses and numerical predictions of thermal-hydraulics codes against theoretical estimates and experimental data;
- To review the status of core design and neutronics studies for current SCWR concepts;
- To review the status of current SCWR concepts, system design and approach to safety.

The first of a series of regular meetings of International Specialists on Supercritical Pressure Heat Transfer and Fluid Dynamics will be embedded in this Technical Meeting.

TOPICS

Papers are invited on all aspects of heat transfer, thermal-hydraulics and system design for supercritical water cooled reactors. Both experimental and theoretical/modelling studies will be considered.

The following topics have been identified as being of particular interest:

- Heat Transfer (including fluid-to-fluid scaling), thermal-hydraulics and thermodynamics for

SCWRs;

- Critical flow during blowdown from supercritical pressures;
- Stability issues for SCWRs;
- Natural circulation in SCWRs;
- Core design and neutronics for SCWRs;
- Design of safety systems and related aspects for SCWRs.

PARTICIPATION

The meeting may be attended only upon official designation. Participants should complete Forms A and B (if applicable) available at the meeting website and send them, together with an abstract of approximately 500 words to the appropriate national authority (Ministry of Foreign Affairs or National Atomic Energy Authority) for subsequent transmission to the IAEA, not later than **April 30, 2010**, with copies to the IAEA Scientific Secretary, Dr. Sama Bilbao y León and to the Meeting Coordinator, Prof. Walter Ambrosini. The abstracts should summarize the content and principal conclusions of the paper the author intends to present during the technical meeting.

Authors will be notified about the acceptance of their paper(s) on the basis of the abstract submitted and the preliminary programme will be issued by **May 31, 2010**. Those authors whose papers are accepted will be asked to prepare full papers for publication in the proceedings of the Technical Meeting. They will receive guidelines for the preparation of the full papers and will be requested to submit their full papers in MS Office Word format and their presentations in Power Point format by **June 21, 2010**. All accepted abstracts will be reproduced in unedited form in the Book of Abstracts, which will be distributed at registration.