



INTERNATIONAL ATOMIC ENERGY AGENCY

Technical Meeting on Prediction of Hydro-Mechanical Behaviour in Reactor Core with Plate-Type Fuel Assembly

27 – 30 August 2013
Corvallis, Oregon, United States of America

INFORMATION SHEET

I. BACKGROUND

The IAEA organizes International Collaborative Standard Problems (ICSP) to facilitate the development and validation of computer codes for design and safety analysis of nuclear power plants. The implementation of ICSP usually includes an experimental investigation of interesting phenomena and simulation of the experiment with computer codes.

The IAEA is organizing a new ICSP on “Prediction of Hydro-Mechanical Behavior in Reactor Core with a Plate-type Fuel Assembly” and invites the participation of interested organizations and institutes. The purpose of this IAEA ICSP is to provide hydro-mechanical experimental data to assess the interaction of fuel plates (solid domain) under a range of flow rates (fluid domain) while maintaining a stable boundary pressure and fluid temperature to verify the suitability for use of the prototypic uranium-molybdenum alloy based fuel. This experimental data may be utilized to assess multi-physics tools simulating the following phenomena:

- Flow disparity within a fuel plate assembly;
- Bulk computational thermal hydraulic characteristics;
- Influence of pressure boundary condition on solid domain; and
- Fuel plate plastic deformation and vibration.

Oregon State University (OSU) has agreed to host this ICSP. Participants are expected to have an analysis tool capable of investigating the above phenomena to be examined in the experiment. Detailed information on this ICSP is available from the IAEA website: <http://www.iaea.org/NuclearPower/WCR/ICSP-plate-fuel.html>.

II. OBJECTIVES

A series of technical meetings will be organized by IAEA to implement the ICSP. This is the first meeting and the following agenda will be addressed in the meeting:

- Sharing the experience of participants;
- Observing experimental facilities to be used for ICSP;
- Understanding all technical matters included in the ICSP; and
- Defining collaboration scheme to be implemented for ICSP.

III. TOPICS TO BE COVERED

Participants are encouraged to share their experience in the use or development of computer codes for prediction of flow structure interaction in reactor core. The following topics will be covered in the meeting:

- Presentation and understanding of ICSP proposal;
- Participant's presentation on the experience and plan;
- Requirements of computer codes to be used for ICSP;
- Understanding experimental procedure;
- Observations on the experimental facility;
- Understanding and agreement on initial & boundary conditions for blind calculation;
- Ground rules for blind calculation; and
- Overall schedule for the entire ICSP period.

IV. ORGANIZATION

Scientific Secretary:

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V. PARTICIPATION IN THE ICSP AND WORKSHOP

Technical Meeting may be attended only upon official designation through the appropriate national authority (Ministry of Foreign Affairs or National Atomic Energy Authority), not later than **20 June 2013**. Attached **ICSP Participation Form** should be submitted at the time of designation of the participant.

VI. VENUE, VISA AND ACCOMMODATION

The Technical Meeting will be held in Corvallis, Oregon, USA. Indications on and how to reach the venue will be provided by local organizer in due course.

Participants should arrange for their accommodation directly with hotels as soon as possible (a list of recommended hotels with indicative room rates will be provided by the local organizer in due course).

Designated participants who require a visa to enter USA should submit the necessary application form as early as possible to the nearest diplomatic or consular representative of USA (More information on visa

requirements and list of diplomatic and consular representations will be provided by the local organizer in due course).

VII. EXPENDITURES

In accordance with the established rules, Governments or other national authorities are expected to bear the travel and other costs of designated participants. Limited funds are, however, available to help cover the cost of participants from Member States eligible to receive technical assistance under the IAEA's Technical Cooperation Programme. Such assistance can be offered, upon specific request, to one participant per country provided that, in the IAEA's view, this participant will make an important contribution to the meeting. The application for financial support should be made at the time of designation of the participant.

VIII. WORKING LANGUAGE

The working language of the meeting will be English. All communications and presentations must be made in English.