



INTERNATIONAL ATOMIC ENERGY AGENCY

WORKSHOP ON ADVANCED CODE SUITE FOR DESIGN, SAFETY ANALYSIS AND OPERATION OF HEAVY WATER REACTORS

2 – 5 October 2012
Ottawa, Canada

INFORMATION SHEET

I. BACKGROUND

Computer codes are used extensively by the nuclear industry for support of operations, reactor and fuel design, safety analysis, and other applications. Various groups within the industry have recognized that our current analytical, scientific and design computer codes, which in many cases are based on development started some 25-30 years ago, are becoming increasingly difficult and expensive to maintain. As well, advances in numerical techniques and computing resources that offer improvements in code accuracy and efficiency may at times be difficult to implement in current code suites. These considerations have led to various organizations and groups to begin developing advanced codes and code suites (toolsets) to replace the current codes.

The goal of developing an advanced code suite for nuclear applications, which consolidates the important functionality of the existing tools using modern software architecture, modular design, and providing user friendly interfaces, and improved accuracy and quality, is ambitious. A collaborative development framework, in which several organizations could leverage their existing advanced tools and expertise, in exchange for developments from other organizations would have several potential benefits like:

- Reduced code development costs for each organization;
- Potential to develop highly trained staff through secondments, etc.; and
- Ability to share lessons learned (e.g., code coupling requirements, nodalization schemes, data transfer architecture).

II. OBJECTIVES

The purpose of the workshop is to:

- share the experience/needs of code development;
- identify potential areas for collaborative work;
- identify opportunities for training, knowledge transfer and development of expertise;
- identify areas with development and validation gaps (if any); and
- find an international collaboration scheme under the auspice of IAEA.

III. TOPICS TO BE COVERED

Participants are encouraged to deliver a presentation or to join discussion on the experience/needs of code development for all disciplines of HWR design, operation and safety analysis. The following topics will be addressed:

- Code coupling requirements (temporarl and spatial resolution);
- Incorporation of the ability to provide uncertainty analysis;
- Code verification and validation requirements;
- Advanced interfaces (data transfer, graphical interfaces etc.);
- National experience on computer codes for design and safety analyses (thermal-hydraulics, reactor physics, fuel/fuel channel, containment, radionuclide behaviour, dose, etc.); and
- National experience on computer codes for operational assistance

IV. PARTICIPATION IN THE MEETING

The workshop may be attended only upon official designation. Participants should complete [Form A](#) and send it, together with an abstract of approximately 300 words to the appropriate national authority (Ministry of Foreign Affairs or National Atomic Energy Authority) for subsequent transmission to the IAEA, not later than **15 July 2012**. The abstracts should summarize the content and principal conclusions of the presentation the author intends to deliver during the workshop.

Prospective participants whose nominations have been received by the IAEA will be notified directly. As usually practiced in this type of meetings, the programme will include a panel session to permit participants to contribute to the summary and highlights of the workshop and to make recommendations to the IAEA on future work in this field.

Participants are requested to provide their presentations in Power Point format no later than **15 September 2012**. These should be sent to the Scientific Secretary whose full name and coordinates are provided below, under Section VIII.

V. VENUE, ACCOMMODATION AND VISAS

The workshop will be held in Ottawa, Canada. Full address will be provided in due course.

Participants should make their own travel and accommodation arrangements. A list of recommended hotels with indicative room rates will be provided by the local organizer and dispatched to all designated participants in due course).

Designated participants who require a visa to enter Canada should submit well in advance the necessary application form to the nearest diplomatic or consular representative of Canada. An official invitation letter to attend the workshop will be issued to all designated participants.

Participants requiring any visa-related assistance should contact, with a cc to the Scientific Secretary, the local organizer whose full name and coordinates can be found below, under Section VIII.

VI. EXPENDITURES

In accordance with the established rules, Governments or other national authorities are expected to bear the travel and other costs of designated participants in the Workshop. 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 workshop. The application for financial support ([Form B](#)) should be made at the time of designation of the participant.

VII. WORKING LANGUAGE

The working language of the workshop will be English. All communications, abstracts, and presentations must be sent in English to the Scientific Secretary.

VIII. ORGANIZATION

Scientific Secretary:

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