



**International Experts' Meeting on
Reactor and Spent Fuel Safety in the Light of the Accident at the
Fukushima Daiichi Nuclear Power Plant**

*Organized in connection with the implementation of the
IAEA Action Plan on Nuclear Safety*

**IAEA Headquarters
Vienna, Austria
19–22 March 2012**

Announcement and Call for Papers

A. Background

Against the backdrop of the accident at TEPCO's Fukushima Daiichi nuclear power plant in March 2011, the Director General of the International Atomic Energy Agency (IAEA) convened a Ministerial Conference on Nuclear Safety. The Conference adopted a Ministerial Declaration which, inter alia, requested the Director General to prepare a draft "Action Plan on Nuclear Safety" covering all the relevant aspects relating to nuclear safety, emergency preparedness and response, and radiation protection of people and the environment, as well as the relevant international legal framework.

On 22 September 2011, the IAEA General Conference unanimously endorsed the Action Plan on Nuclear Safety. The Action Plan defines a comprehensive programme of work, in 12 major areas, to strengthen nuclear safety worldwide. The action related to Communication and Information Dissemination requests the IAEA Secretariat "to organize international experts' meetings to analyse all relevant technical aspects and learn the lessons from the Fukushima Daiichi nuclear power station accident". This meeting is being organized in response to that request.

B. Objectives

The primary objectives of this International Experts' Meeting (IEM) are: to analyse relevant technical aspects of reactor and spent nuclear fuel management safety and performance related to severe accidents; to review what is known to date about the accident at the Fukushima Daiichi nuclear power plant in order to understand more fully its root causes; and to share the lessons learned from the accident. The meeting will identify the necessary priorities for further actions in these areas in different power reactor types, focusing in particular on boiling water reactors (BWRs) and pressurized water reactors (PWRs).

The meeting will provide a forum for discussions and exchange of information among technical experts from Member States on reactor and spent nuclear fuel safety and performance under severe conditions. The meeting is expected to be of particular interest to technical experts from utilities, research and design organizations, regulatory bodies, manufacturing and service companies and other stakeholders.

In particular, the objectives of the meeting will be to:

- Identify and analyse reactor and spent nuclear fuel safety and performance issues;
- Consider the design, engineering and analysis of current and new systems for accident prevention and mitigation;
- Exchange information on national assessments of reactor and spent nuclear fuel safety and performance; and
- Identify potential priority areas for research and development, technology development and management.

C. Format

An opening address will be delivered by an IAEA senior management representative.

The meeting will consist of a plenary session and two working sessions.

The plenary session will include keynote presentations by invited international experts who will address issues related to the two main areas of reactor and spent nuclear fuel safety.

Presentations will cover updated and new knowledge (including root cause analysis) gained by industry and regulatory representatives, and by technical support organizations, thus offering a broad global vision on the relevant technical aspects of the Fukushima accident with a view to stimulating discussion. Presentations will be made by relevant experts from Japan, the IAEA, other international organizations, and from Member States, and will focus on national responses to the Fukushima accident, such as assessment of safety vulnerabilities or 'stress tests' and other actions.

The parallel working sessions will feature presentations by international experts who will focus on the re-evaluation of current design basis accidents and approaches for preventing and mitigating the consequences of severe accident initiating events, as well as on severe accident management and supporting analysis (reactors and reactor systems, including containment, spent fuel and spent fuel storage systems).

An annotated Programme will be made available on the IAEA's website within the following weeks.

Summaries of all the technical presentations and discussions, including lessons learned, and recommendations for further activities, including input for future research and development areas and their priorities, will be prepared by the Chairpersons of the IEM and will be presented to the closing plenary session.

D. Topics

In general the IEM will address the re-evaluation of design basis accidents; the prevention of severe accidents and the mitigation of their consequences; severe accident management and supporting analysis in different power reactor types, focusing in particular on BWRs and PWRs.

In the area of reactor safety, specific topics include:

- Extended loss of power, including station blackout, combined with other events such as loss of heat sink;
- Potential areas for improvement based on 'stress tests' and other assessments;
- Re-evaluation of the application of the defence in depth approach to reactor safety;
- Design, engineering and analysis of current and new reactor systems in single and multiple units (e.g. fail-safe criteria, containment performance, venting and venting reliability, and instrumentation and control (I&C) post-accident monitoring).
- Improved protection for systems, structures and components important to safety;
- Severe accident management (e.g. maintaining subcriticality, heat removal, and improved severe accident modelling).

In the areas of spent nuclear fuel and spent fuel storage systems, specific topics include:

- Design and structural integrity of spent fuel storage systems (national perspectives);
- Potential areas for improvement based on 'stress tests' and other assessments;
- Engineering and analysis of current and new spent fuel storage systems, including I&C post-accident monitoring (I&C);
- Handling and management of damaged fuel including corium;
- Re-evaluation of the application of the defence in depth approach to spent fuel safety;
- Spent fuel management strategies (consideration of strategies, operational, storage and disposal / reprocessing);
- Severe accident management (e.g. mitigation technology and its availability, heat removal, review of available modelling tools, and key information available for accident assessment).

E. Contributed Papers

Concise papers on issues falling within the topics may be submitted as contributions to the IEM. All papers, apart from invited papers, must present original work and should not have been published elsewhere.

(a) Submission of synopses

Experts from Member States who wish to present a paper at the IEM must submit an extended synopsis (in English) of maximum 800 words (i.e. two A4 format pages of single spaced typing, or the equivalent, including any tables or diagrams and a few pertinent references), together with a completed Form for Submission of a Paper (Form B) and Participation Form (Form A), to the competent official authority for subsequent electronic transmission to the IAEA (official.mail@iaea.org). These documents must be received by the IAEA by **20 January 2012**. In addition, the synopsis must be sent electronically to: iem1@iaea.org. The synopsis should give enough information on the content of the proposed paper to enable the Selection Committee to evaluate it. Introductory and general matters should not be included.

Authors are urged to make use of the “Extended Synopsis Template” available on the IEM web page, as well as of the attached sample extended synopsis.

(b) Acceptance of papers

The synopsis will be considered only if the Participation Form (Form A) and Form for Submission of a Paper (Form B) have been received by the deadline and through the appropriate official channels.

In order to provide ample time for discussion, the number of papers that can be accepted for oral presentation is limited. If the number of relevant and high quality papers submitted for selection exceeds the acceptable number, some of them may be selected for poster presentation.

Authors will be informed by **15 February 2012** whether their paper has been accepted by the Programme Committee on the basis of the synopsis submitted. At the same time, authors will be advised whether their paper has been accepted for oral presentation. Advanced copies of presentations/posters have to be submitted by **1 March 2012**.

The IEM Secretariat reserves the right to exclude papers that do not comply with the IAEA’s quality standards and/or do not apply to one of the topics listed in Section D.

F. Participation

The IEM is targeted at international experts, in particular from Member States with experience in the operation of nuclear power plants. All experts to be nominated by Member States to participate in the meeting are requested to **register online in advance** through the IEM web page. In addition they are required to send a completed Participation Form (Form A) and, if applicable, the Form for Submission of a Paper (Form B) and the Grant Application Form (Form C) to the competent national authority (e.g. the Ministry of Foreign Affairs or National Atomic Energy Authority) or to one of the organizations invited to participate, for subsequent transmission to the IAEA (official.mail@iaea.org).

A participant will be accepted only if the Participation Form is transmitted through the competent national authority of a Member State of the IAEA or by an organization invited to participate.

Participants whose official designations have been received by the IAEA will receive further information on the IEM approximately one month before the beginning of the meeting. This information will also be posted on the IEM web page.

G. Expenditures

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of designated participants in the meeting. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of selected specialists from Member States eligible to receive technical assistance under the IAEA's technical cooperation programme. Such assistance may be offered, upon specific request, to one participant per country provided that in the IAEA's view the participant will make an important contribution to the meeting. If governments wish to apply for a grant on behalf of one of their experts, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants are submitted by **20 January 2012** and that they are accompanied by a duly completed and signed Grant Application Form (Form C).

Approved grants will be issued in the form of a lump sum payment that usually covers **only part of the cost of attendance**.

H. Working Language

The working language of the IEM will be English. All communications, synopses and full papers must be sent to the IAEA in English.

I. Visas

Designated 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.

J. IEM Secretariat

General address of the IEM Secretariat:

International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 Vienna, AUSTRIA
Tel.: +43 1 2600
Fax: +43 1 2600 2007
Email: official.mail@iaea.org

Scientific Secretaries of the IEM:

Mr Peter Hughes
Division of Nuclear Installation Safety
Tel.: +43 1 2600 22830
Fax: +43 1 2600 2007
Email: iem1@iaea.org

Mr Pal Vincze
Division of Nuclear Power
Tel.: +43 1 2600 22805
Fax: +43 1 2600 2007
Email: iem1@iaea.org

Administration and organization:

Ms Martina Neuhold
Conference Services Section
Division of Conference and Document Services
IAEA-CN-209
Tel.: +43 1 2600 21314
Fax: +43 1 26007
Email: M.Neuhold@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries and correspondence on administrative matters to the IAEA Conference Services Section.

K. IEM web page

Please visit the IEM web page regularly for new information regarding the meeting:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=43900>