



INTERNATIONAL ATOMIC ENERGY AGENCY

INTERNATIONAL SYMPOSIUM ON SEISMIC EVALUATION OF EXISTING NUCLEAR FACILITIES

Vienna, Austria
25 – 29 August 2003

ANNOUNCEMENT AND CALL FOR PAPERS

1. INTRODUCTION

In the past decade, seismic evaluation of existing Nuclear Power Plants (NPPs) has been an issue in western countries (particularly for the east of North America and for older NPPs in Europe) as well as in eastern European countries where systematic reviews of NPPs were carried out. Several Member States have still on-going seismic upgrading programmes. Presently, projects of plant life extension create an additional interest in safety evaluation of existing NPPs.

Seismic evaluation is also an issue for other nuclear facilities. In western countries, some older facilities (laboratories, research reactors, fuel plants...) have been designed without taking into account (or poorly taking into account) earthquake input, even on seismic sites. In eastern countries, the situation is not yet clearly evaluated. In several countries concerns are expressed regarding research reactors. Generally speaking, the seismic evaluation of these nuclear facilities is not so advanced as the evaluation of NPPs and presents a wider range of different situations.

Worldwide experience shows that the assessment of the seismic capacity of an existing operating facility can be required for the following reasons:

- a) evidence of a greater seismic hazard at the site than expected before, due to new or additional data and/or to new methods;
- b) regulatory requirements, such as periodic safety reviews to ensure that the plant has adequate margins for seismic loads;
- c) lack of anti-seismic design or poor anti-seismic design;

- d) new technical findings such as vulnerability of some structures (masonry walls) or equipment (relays), other feedback and new experience from real earthquakes.

Those safety issues raised by the seismic evaluation of existing NPPs are addressed in an IAEA Safety Report “Seismic Evaluation of Existing Nuclear Power Plants” (in print, will be published by August 2003). Other nuclear facilities are, at least partly, covered by IAEA-TECDOC 348 “Earthquake Resistant Design of Nuclear Facilities with Limited Radioactive Inventory” (1985), now under revision with the new title “Design of Nuclear Facilities other than NPPs in Relation to External Events, with a Special Emphasis on Earthquake” (in preparation).

2. OBJECTIVE

The objective of the Symposium is to foster the exchange of information on topical issues in seismic evaluation of existing nuclear facilities, with the aim of

- consolidating an international consensus on the present status of these issues,
- promoting a homogeneous engineering approach of their resolution,
- identifying the needs for strengthening international co-operation,
- concurring on recommendations for the future activities of the IAEA.

3. TOPICS

The following topical areas have been identified as subjects for sessions. Papers related to nuclear facilities **other than NPPs** are welcomed. It is also intended to accept papers related to industrial facilities, **other than nuclear**, so as to enrich discussions and provide a wider background on engineering practices related to seismic evaluation.

- **Legal and regulatory framework**
 - Safety requirements in evaluation situation versus design situation,
 - Seismic evaluation in the context of plant life extension,
 - Risk informed approach.
- **Questions related to seismic input motion**
 - Evaluation of seismic hazard,
 - The specific case of low magnitude near field earthquakes,
 - Exceedance criteria of an earthquake input level.
- **Assessment of structures, systems and components**
 - Capacity assessment of structures and components,
 - Floor response spectra generation,
 - Qualification of equipment (analysis, experimental qualification, feedback experience).
- **Experience feedback of seismic evaluation and upgrades**
 - Case studies of seismic evaluation, including seismic PSA,
 - Upgrading actions,

- Lessons learned.
- **Preparation in case of a seismic event**
 - Operating procedures and in service inspection,
 - Monitoring and automatic scram,
 - Scenarios, pre-earthquake preparation and post-earthquake actions.
- **Research and Development**
 - Identification of needs,
 - Presentation of ongoing R&D programs,
 - Role of experimental facilities (shaking tables, reaction walls...).

4. PROGRAMME STRUCTURE

The Symposium is organized in such a way as to facilitate exchanges and discussions among the participants. In this regard, except for keynote and a few other invited lectures, the contributions will be in the form of posters.

An **opening session** will address the Symposium objectives.

A series of 6 **technical sessions** will address the 6 above-mentioned topics of interest. Each session will consist of:

- a keynote lecture or a series of 2 or 3 invited lectures,
- a poster session, introduced by a moderator,
- a discussion prepared in advance by the same moderator, or a panel session.

A **final session** will include a presentation by a distinguished speaker and presentations by the session chairpersons of the main conclusions drawn in their respective sessions and of the recommendations for the future development of international co-operation, including IAEA activities.

5. AUDIENCE

The Symposium is directed at experts involved in seismic evaluation of nuclear facilities, either regarding safety analysis or capacity assessment of structures, systems and components. However the intent is also to encourage participation of and to foster exchanges with experts in charge of the operational facets of seismic evaluation.

6. PARTICIPATION

Anyone wishing to participate in the Symposium must send a completed Participation Form (**Form A**) through one of the competent official authorities (see Section 9) for subsequent transmission to the IAEA. A participant will be accepted only if the Participation Form is transmitted to the IAEA by one of the official channels. Details on the logistics of the

Symposium will be sent to all designated participants approximately three months before the Symposium.

7. CONTRIBUTED PAPERS AND POSTERS

Concise papers on issues falling within the scope of the Symposium (see Section 3 above) may be submitted as contributions to the Symposium. These papers will not be presented orally, but will be included in a Book of Contributed Papers to be distributed free of charge to all participants upon registration. Authors of contributed papers must present the substance of their paper in the form of a **Poster**, which will be exhibited in the Poster Area.

The contributed papers must not exceed four pages in length and must be submitted in English. Each contributed paper must be preceded by an abstract, not exceeding 300 words. Authors should state to which session topic their contribution relates (see Section 3). Authors are urged to make use of the IAEA's Proceedings Paper Template in Word 2000 and its user instructions available on the Symposium web page (Section 16). Guidelines for the preparation of a contributed paper are given in the attached "IAEA Guidelines for Authors on the Preparation of Manuscripts for Proceedings" and the "IAEA Guidelines for the Preparation of a Poster".

The contributed papers should be submitted to the following e-mail address:

Seisme2003@iaea.org

or sent on diskette to the Scientific Secretariat (see Section 15). The diskette label should identify the paper, the proposed session topic and the software application used (the use of Microsoft Word is encouraged). To permit selection and review, the electronic version of the contributed paper must be received by the Scientific Secretariat not later than **28 February 2003**.

In addition to the electronic submission, a copy of the contributed paper(s) must also be submitted through one of the competent official authorities (see Section 9) together with a completed Form for Submission of a paper (**Form B**) and the Participation Form (**Form A**) to reach the IAEA not later than **28 March 2003**.

Only papers that have been received by the above deadline(s) and through the appropriate official channels will be considered for inclusion in the Book of Contributed Papers after a peer review process. Furthermore, the Secretariat reserves the right to exclude papers that do not comply with its quality standards and do not apply to one of the topics in Section 3 above.

Papers that are not sent through the official channels and papers arriving after the deadline will not be considered.

Authors will be informed by **17 April 2003** whether their papers have been accepted for inclusion in the Book of Contributed Papers and for presentation as a poster.

8. EXPENDITURES/GRANTS

No registration fee is charged to participants.

As a general rule, the IAEA does not pay for participants' travel and living expenses. However, limited funds are available to help meet the cost of attendance of selected specialists mainly from developing countries with low economic resources. Generally, not more than one travel grant may be awarded to any one country. To apply for a travel grant, please send the Grant

Application **Form C** – typewritten or clearly printed through your appropriate government authority (see Section 9) together with the Participation Form and, if relevant, the Paper Submission Form to reach the IAEA at the latest by **28 March 2003**. Incomplete or late applications will not be considered. The grants will be lump sums usually covering **only part of the cost** of attendance.

9. CHANNELS OF COMMUNICATION

The Participation Form (Form A), the Paper Submission Form (Form B) and, if applicable, the Grant Application Form (Form C) must be sent through one of the competent official authorities (Ministry of Foreign Affairs or national atomic energy authority) for subsequent transmission to the IAEA. Subsequent communications concerning technical matters should be sent to the Scientific Secretary and communications on administrative/logistical matters to the Symposium Secretariat (see Section 15).

10. DISTRIBUTION OF DOCUMENTS AND PROCEEDINGS

A preliminary programme of the Symposium will be sent by airmail to all officially designated participants well in advance of the meeting and will also be available on the IAEA conference website (see Section 16).

The Final Programme and a Book of Contributed Papers containing all papers accepted will be available free of charge upon registration at the Symposium.

The proceedings of the Symposium will be published by the IAEA as soon as possible after the meeting.

11. WORKING LANGUAGE

The working language of the meeting will be English. All communications must therefore be sent to the IAEA in English.

12. ACCOMMODATION

Detailed information on accommodation and other administrative details will be sent to all officially designated participants approximately three months before the meeting. It will also be available on the IAEA conference website.

13. VISAS

Designated participants who require a visa (Schengen visa) to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as soon as possible. Please note that the procedure could take up to three weeks.

14. KEY DATES

Deadline for receipt of Electronic version of contributed papers	28 February 2003
Deadline for receipt of Paper submission forms (Form B) and Copy of contributed paper through official channels	28 March 2003
Deadline for receipt of grant application forms (Form C) (if applicable) through official channels	28 March 2003

15. CONTACT INFORMATION

(a) Scientific issues – Scientific Secretariat (IAEA)

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(b) Administrative Issues – Symposium Secretariat

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16. SYMPOSIUM WEB PAGE

Please visit the IAEA conference webpage regularly for any new and/or updated information regarding this Symposium under:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=106>