Second Workshop on Earthquake Engineering for Nuclear Facilities:

Uncertainties in Seismic Hazard Assessment

14 - 25 February 2005

(Miramare - Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics, in collaboration with the International Atomic Energy Agency (IAEA), will organize the "***Second Workshop on Earthquake Engineering for Nuclear Facilities***". The topic of this Workshop will be "*Uncertainties in Seismic Hazard Assessment*" and will be held in Miramare, Italy, from ***14 – 25 February 2005***. The Workshop will be co-directed by Messrs. Antonio Godoy and Paolo Contri (IAEA). Prof. G.F. Panza (Dept. of Earth Sciences/ICTP, Trieste) will be the Local Organizer.

The IAEA recently (2002) published the second revision of the Safety Guide on "Evaluation of Seismic Hazards for Nuclear Power Plants". The new revision is based on the feedback from the seismic safety review services of the IAEA to different nuclear installations over the past decade (approximately 100 reviews), findings from recent major earthquakes, incorporation of new methods of research (such as paleoseismology) and recent trends in regulatory approaches.

The recent trends in regulatory approaches include, inter alia, an increased emphasis on risk informed decision making and consequently probabilistic tools for the assessment of hazards. Therefore, probabilistic seismic hazard analysis (PSHA) is being utilized more and more by Member States as an input to the Probabilistic Safety Assessment (PSA) studies. Within this context, the assessment of uncertainties is a very important part of the analysis and deserves particular attention.

The programme will cover the following topics:

- Introduction to seismic hazard analysis for nuclear facilities
- Methods used in the Probilistic Seismic Hazard Analysis (PSHA)
- Sources of uncertainty (aleatory and epistemic) in PSHA
- Ways to control and decrease uncertainty through site specific investigations:

- Geological and geophysical investigations
- Seismological investigations
- Geotechnical investigations

- Major sources of epistemic uncertainties
- Major sources of aleatory uncertainties
- Uncertainty propagation and incorporation to hazard curves and uniform hazard spectra
- Recent case histories

Keynote lectures

Ways of controlling and decreasing uncertainties in PSHA through acquisition and treatment of seismological data, Giuliano Panza (ICTP).

Overview of the importance of uncertainty treatment within the context of the IAEA Safety Guide on "Evaluation of Seismic Hazards for Nuclear Power Plants", Aybars Gürpinar (IAEA).

Scientists and students from all countries that are members of the UN, UNESCO, or IAEA may attend the Workshop. The main purpose of the Centre is to help researchers from developing countries through a programme of training activities within a framework of international co-operation. However, students and post-doctoral scientists from developed countries are also welcome to attend. As the Workshop will be conducted in English, participants should have an adequate working knowledge of that language. A degree in Civil engineering, Mechanical engineering, Computer Science and/or similar disciplines is required.

As a rule, travel and subsistence expenses of the participants should be covered by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire activity. There is no registration fee for attending the Workshop. For logistic reasons, connected with the number of Personal Computers available, the total number of participants in the Workshop is limited.

The**Application Form** is obtainable from the ICTP WWW server: http://agenda.ictp.trieste.it/smr.php?1645 which will be constantly up-dated, or from the activity Secretariat. It should be completed and returned before **20 December 2004** to the following address:

2nd Workshop on Earthquake Engineering for Nuclear Facilities
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