

Preface to the 2004 English Edition

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This English edition of the “**Guidelines for Earthquake Resistant Non-Engineered Construction**” is a new contribution of the National Information Center of Earthquake Engineering of India (NICEE) to contribute to our common objective of improving the seismic safety of non-engineered housing constructions.

The first edition of the book was published by the International Association for Earthquake Engineering (IAEE) in 1986. It consisted in a revised and amplified version of the original document, “**Basic Concepts of Seismic Codes, Vol.1, Part II, Non-Engineered Construction**”, published also by IAEE in 1980. The revision resulted from the work of an ad-hoc Committee, integrated by Anand S. Arya, Chairman (India), Teddy Boen (Indonesia), Yuji Ishiyama (Japan), A. I. Martemianov (USSR), Roberto Meli (Mexico), Charles Scawthorn (USA), Julio N. Vargas (Peru) and Ye Yaoxian (China). These efforts were guided by the objectives of our Association, related to the promotion of international cooperation among scientists, engineers and other professionals in the field of earthquake engineering through the exchange of knowledge, ideas and the results of research and practical experience.

The book starts with the presentation of the basic concepts that determine the performance of constructions when subjected to high intensity earthquakes, as well as with the sensitivity of that performance to the basic geometrical and mechanical properties of the systems affected. This information is later applied to the formulation of simplified design rules and to the presentation of practical construction procedures, both intended to prevent system collapse and to control the level of damage produced by seismic excitations. Emphasis is placed on basic principles and simple solutions that can be applied to different types of structural systems, representative of those ordinarily used in low-cost housing construction in different regions and countries in the world.

An electronic version of the document was made available at the website (www.nicee.org) of NICEE at the Indian Institute of Technology Kanpur (IITK), shortly after the January 26, 2001 Gujarat earthquake. The response was very encouraging, thus showing the convenience of preparing a new hard edition, intended to disseminate knowledge useful for the reconstruction process. This new endeavor was undertaken by Dr. Sudhir K. Jain, of the Indian Institute of Technology at Kanpur, with the support of the Associated Cement Companies Ltd (ACC). Permission for publication was requested from IAEE, which immediately expressed our enthusiastic approval for this valuable effort. In 2003, NICEE efforts to disseminate the Guidelines continued, now in the form of a translation into Hindi.

The International Association for Earthquake Engineering enthusiastically endorses this new endeavor of NICEE, which will give us a new English edition of the Guidelines. We want again to express our deepest recognition to Dr. Jain for his continued efforts to disseminate knowledge useful for the enhancement of seismic safety around the world.



June 2004

Luis Esteva,
President, IAEE

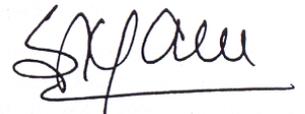
Foreward

The Bhuj earthquake of 26 January 2001 in Gujarat (India) has caused wide spread concerns about the seismic safety of built environment in India. The vulnerability of our modern constructions was clearly seen around the country on the television screens. About 130 multistorey buildings collapsed in Ahmedabad (seismic zone III) located far away from the earthquake epicenter (250 km); most of these buildings had been constructed fairly recently. Total losses during the earthquake have been estimated at Rs 25,000 crores. The earthquake has created a very substantial demand for know how on seismic safety.

Immediately after the earthquake, the National Information Centre of Earthquake Engineering (www.nicee.org) made an electronic copy of the *Guidelines for Earthquake Resistant Non-Engineered Construction* available on its web site with permission of the International Association for Earthquake Engineering (IAEE). This was very well received. Subsequently, the ACC Ltd printed about of the Guidelines for dissemination with permission of the IAEE. There was so much demand, that these copies were soon exhausted. In the meanwhile, the guidelines have been translated into Hindi and printed by NICEE in November 2003.

NICEE is very pleased to now offer another reprint of the English version of the Guidelines. We are thankful to the International Association for Earthquake Engineering for granting permission for this reprint. Special thanks are due to Professor Luis Esteva, President of IAEE, for his message for this reprint. The excellent layout and design developed by The Indian Concrete Journal (ICJ) of ACC has been used in this reprint; we are thankful to them. Finally, NICEE is thankful to the Government of NCT of Delhi for sponsoring the reprint.

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