

ATC-30

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**WORKSHOP FOR UTILIZATION OF RESEARCH
ON ENGINEERING AND SOCIOECONOMIC
ASPECTS OF THE 1985 CHILE AND MEXICO
EARTHQUAKES**

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Preface

The magnitude 7.8 March 3, 1985 earthquake in Chile and the magnitude 8.1 September 19, 1985 earthquake in Mexico (followed by a magnitude 7.5 aftershock one day later) severely tested structures in the large, densely populated metropolitan areas of Mexico City, Santiago, Chile, and Valparaiso, Chile. The National Science Foundation (NSF) sponsored detailed investigations of the engineering and socio-economic aspects of these earthquakes, which have provided an opportunity to answer many critical questions in earthquake engineering. A major task that remains, however, is to ensure that all knowledge gained, and lessons learned, are utilized to improve seismic design standards and emergency response planning and other earthquake hazard mitigation efforts, both in the United States and the affected countries.

In light of this need to bridge the "technology transfer gap" between the knowledge gained about these earthquakes and its potential application, the National Science Foundation in November 1989 awarded the Applied Technology Council (ATC) and the Earthquake Engineering Research Institute (EERI) a grant to conduct the ATC-30 Research Utilization Workshop. The purpose of the workshop was to provide a mechanism for researchers to inform practicing seismic design professionals and other "knowledge users" of the lessons learned so that deficiencies in existing standards of practice and other earthquake hazard mitigation efforts can be identified and improved.

The workshop was held in San Diego, California, in October 1990 and had the following specific objectives: a.) to summarize and review the results of the NSF-sponsored investigations of the 1985 Mexico and Chile earthquakes; b.) identify deficiencies in existing standards of seismic design practice revealed by these research findings; c.) identify other lessons that have been

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learned that would impact earthquake hazard mitigation policies and procedures; d.) develop recommendations for improved standards of practice and other earthquake hazard mitigation activities, and e.) identify and rank research needs.

Included in these proceedings are eight invited papers covering the topics of technology transfer, geotechnical issues, structural response issues, architectural and urban design considerations, emergency response planning, search and rescue, and reconstruction policy issues. Also included are reports from each of the five Working Groups that met during the Workshop and an Action Plan that identifies specific research findings along with the needed action and the user groups and agencies that are targeted to put the recommendations into practice.

ATC and EERI gratefully acknowledge the many individuals who contributed to the success of the workshop. William A. Anderson of the National Science Foundation provided valuable assistance, support and cooperation throughout the project. Steering Committee members Christopher Arnold, Vitelmo V. Bertero, Patricia A. Bolton, Nicholas F. Forell, Barry J. Goodno, I. M. Idriss, Edwin H. Johnson, Frederick Krimgold, and Loring A. Wyllie developed the program and served as workshop Working Group chairs. The locations and affiliations of these individuals are provided in Appendix A. Appendix B contains the locations and affiliations of all Workshop participants.

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Susan K. Tubbesing
EERI Executive Director

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