

Proceedings of FEMA-sponsored workshop on communicating earthquake risk



ATC Applied Technology Council

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Applied Technology Council

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Proceedings of FEMA-Sponsored Workshop on Communicating Earthquake Risk

**June 18, 2002
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by

APPLIED TECHNOLOGY COUNCIL
201 Redwood Shores Parkway, Suite 240
Redwood City, California 94065
www.ATCouncil.org

Funded by

FEDERAL EMERGENCY MANAGEMENT AGENCY
Michael Mahoney, Project Officer
Robert Hanson, Technical Consultant
Washington, D.C.

PROJECT MANAGEMENT COMMITTEE

Christopher Rojahn (Project Executive Director)
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Jack P. Moehle
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Jon Traw

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Preface

In September 2001 the Applied Technology Council (ATC) was awarded a contract by the Federal Emergency Management Agency (FEMA) to conduct a long-term project to prepare next-generation Performance-Based Seismic Design Guidelines (ATC-58 Project). The project is to consider and build on the FEMA-349 report, *Action Plan for Performance-Based Seismic Design* (EERI, 2000), which provides an action plan of research and development activities to produce and implement design guidelines that specify how to design buildings having a predictable performance for specified levels of seismic hazard. Ultimately FEMA envisions that the end product from this overall project will be design criteria for performance-based seismic design that could be incorporated into existing established seismic design resource documents, such as the *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (BSSC, 2001), the *FEMA 273 NEHRP Guidelines for the Seismic Rehabilitation of Buildings* (ATC/BSSC, 1997), and its successor document, the *FEMA 356 Prestandard and Commentary for the Seismic Rehabilitation of Buildings* (ASCE, 2000).

The ATC-58 Project is being conducted in several phases, as resources become available. In Phase 1, which commenced in late 2001, ATC developed a management process for the project, identified and engaged key project management and oversight personnel, developed a project Work Plan, commenced development of a report on performance characterization, and conducted two workshops to obtain input on project needs and goals.

Workshop One, the proceedings of which are presented in this document, focused on communicating earthquake risk. Held on June 18, 2002 in Chicago, Illinois, Workshop One was organized to obtain preliminary feedback from a cross section of building stakeholders, including real estate developers, building owners, corporate tenants, lenders, insurers and other interested parties as to how performance-based seismic design guidelines can most usefully deal with issues of earthquake risk. In particular, the workshop dealt with three important issues:

- identification of those aspects of earthquake-related risk that are of most concern to the stakeholders;
- appropriate means to communicate the low-probability but potentially significant consequences of earthquakes; and
- appropriate means to communicate the considerable uncertainties associated with prediction of the effects of earthquakes and the performance of individual affected structures.

The Applied Technology Council gratefully acknowledges the members of the ATC-58 Project Team, who planned and organized the Workshop, and the representatives from a broad range of organizations who participated in the workshop: Daniel Abrams, Daniel Alesch, Randall Berdine, Michel Bruneau, Clifford Carey, Bruce Ellingwood, Mohammed Ettouney, Bruce Hall, Ronald Hamburger, Robert Hanson, Jack Hayes, Robert Hendrickson, Hildo Hernandez, William Holmes, Michael Mahoney, James Malley, Peter May, Ronald Mayes, Jack Moehle, William Moor, Willaim Mott, Christopher Rojahn, Randy Schreitmueller, John P. Scott, Jim Sealy, Debra Stein, Christopher Terzich, Jon Traw, Paul Tucker, Steven Weinryb, and Larry Wong. The affiliations of these individuals are provided in Appendix A, which contains a list of Workshop Attendees. Members of the ATC-58 Project Team, and their respective responsibilities, are identified in the List of Project Participants.

ATC also gratefully acknowledges the financial support provided by the Federal Emergency Management Agency and the guidance and oversight provided by Michael Mahoney (FEMA Project Officer) and Robert Hanson (FEMA Technical Consultant).

Christopher Rojahn
ATC Executive Director

Table of Contents

Preface iii

List of Tables vii

Executive Summary ix

1. Introduction 1

2. Discussion Summary 5

Appendix A: Workshop Participants 15

Appendix B: Slides – First Plenary Session 17

Appendix C: Participants and Discussion Guides, Morning Breakout Sessions 25

Appendix D: Slides – Second Plenary Session 33

Appendix E: Participants and Discussion Guides, Afternoon Breakout Sessions 43

References 51

Project Participants 53

Applied Technology Council Projects and Report Information 55

Applied Technology Council Directors 73