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by

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Preface

The National Earthquake Ground Motion Mapping Workshop, held in Los Angeles on September 22-23, 1995 was sponsored by the U.S. Geological Survey and conducted under the auspices of the ATC-35 Program to "Transfer U.S. Geological Survey Research Results into Engineering Design Practice." Co-sponsors were the Building Seismic Safety Council, the National Center for Earthquake Engineering Research, and the Structural Engineers Association of California.

The purpose of the Workshop was to provide input from the structural engineering design profession and the geosciences/geotechnical engineering professions to the U.S. Geological Survey on several key broad issues that affect the preparation and use of national earthquake ground motion maps. The input provided will help in the preparation of national ground motion maps that have a high degree of acceptance, thereby facilitating the use of the maps as a basis for seismic codes and other seismic engineering uses.

The Workshop provided the opportunity for introducing the ATC-35 Ground Motion Initiative, a longer-term effort to examine ground motion needs for a new generation of seismic design regulations and seismic design practice.

The following four key issues were the focus of the workshop:

- *Issue A: Parameters.* What ground motion parameter should be mapped?
- *Issue B: Reference site conditions.* What reference site conditions should be used as a basis for mapping?
- *Issue C: Risk Presentation*. Should maps be based on a probabilistic approach, a deterministic approach, or both?
- *Issue D: Modeling*. How should uncertainty in seismic source characterization and ground motion attenuation be incorporated in the mapping process and in the interpretation of results?

Four Working Groups were formed and met to consider these issues. In each Working Group, Advocacy papers were prepared on two sides of the issue. Using these Advocacy papers as a starting point, the Working Groups developed a position on their respective issues. At the Workshop itself, the Advocacy papers were presented by the authors, followed by a summary of the Working Group's findings, presented by the Chairman of that Group or his representative. The Workshop participants had an opportunity to discuss the issue and to accept, reject, or modify the Working Group's recommendations. Voting by written ballot was the mechanism for determining the Workshop's recommendations on each issue. There was also an opportunity for Workshop participants to provide input on other issues involved in preparing and documenting national ground-motion maps.

The Applied Technology Council gratefully acknowledges the many individuals who have contributed to the success of the Working Group meetings and the Workshop. The Workshop Organizing Committee provided overall guidance and direction for the 2-day Working Group meetings and the Workshop. These individuals are: Maurice Power (Project Director and Co-Chairman), E.V. Leyendecker (Co-Chair), Robert Bachman, James Beavers, Roger Borcherdt, Ian Buckle Arthur Frankel, Thomas Holzer, Chris Poland, Allan Porush, Christopher Rojahn, and Charles Thiel. The affiliations of these individuals are provided in Appendix A. Members of the Working Groups and their affiliations are provided in Appendix B. Workshop participants and their affilications are provided in Appendix C.

ATC also gratefully acknowledges the input, support, and cooperation provided by USGS Project Officer, Thomas Holzer.

Christopher Rojahn
Executive Director

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