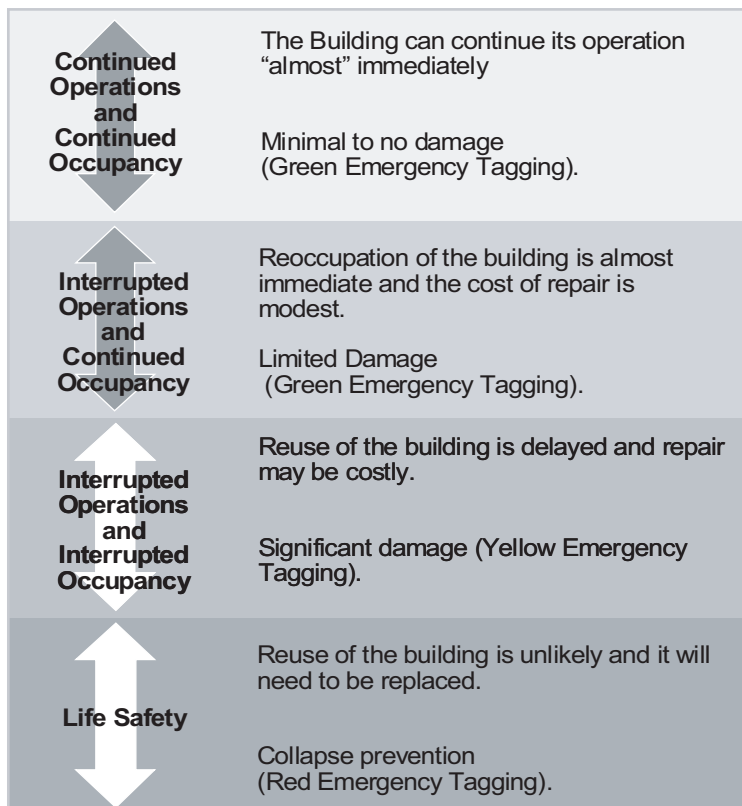


Preliminary evaluation of methods for defining performance



Applied Technology Council

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Preliminary Evaluation of Methods for Defining Performance

by

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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 for new and existing buildings (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. To date 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, developed a report on performance characterization, and conducted two workshops to obtain input on project needs and goals.

This report documents the results of an initial effort on the ATC-58 project to develop recom-

mendations for the characterization of performance. The recommendations are based on findings emanating from an ATC-58 Workshop on Communicating Earthquake Risk, which was held in Chicago, Illinois, on June 18, 2002, and on discussions amongst the ATC-58 project participants.

The Applied Technology Council gratefully acknowledges the ATC-58 Product One Development, who authored this report, and the ATC-58 Project Management Committee and ATC-58 Steering Committee, who guided its development. The ATC-58 Product One Development Team consisted of Ronald Mayes (Team Leader), Daniel Alesch, Bruce Ellingwood, and James Malley. Membership on the ATC-58 Project Management Committee consists of Christopher Rojahn (Project Executive Director), Ronald Hamburger (Project Technical Director), Peter May, Jack Moehle, Maryann Phipps (ATC Board Representative), and Jon Traw. The ATC-58 Steering Committee is chaired by William Holmes and its membership consists of Daniel Abrams, Randall Berdine, Roger D. Borchardt, Michel Bruneau, Mohammed Ettouney, John Gillengerten, William Petak, Joe Sanders, Randy Schreitmuller, and James Sealy. The affiliations of these individuals are provided in the List of Project Participants.

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Christopher Rojahn
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