

Proceedings of
**ATC-29 Seminar and Workshop on Seismic
Design and Performance of Equipment and
Nonstructural Elements in Buildings and
Industrial Structures**

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Preface

In October, 1990, the Applied Technology Council (ATC) conducted a two-day seminar entitled "Seismic Design and Performance of Equipment and Nonstructural Elements in Buildings and Industrial Structures." The purpose of the seminar was to present a complete picture of available research information and current informed thinking pertinent to the development of simplified approaches for seismic qualification of equipment and nonstructural elements in buildings and industrial structures. The seminar, held in Irvine, California, and attended by 167 practitioners and researchers, was followed by a one-day workshop to identify problems in existing standards and practice and to propose solutions. The seminar technical papers and workshop discussions provided the basis for a proposed 5-year research plan.

This report contains the 35 technical papers presented at the seminar, embracing the areas of current practice, codes and regulations, earthquake performance, analytical and experimental investigations and development of new seismic qualification methods. The report also includes a summary of the workshop discussions and the proposed research plan. An index of the technical papers and the workshop summary is included to facilitate the use of the document as a reference.

Applied Technology Council gratefully acknowledges the many individuals who contributed to the success of the seminar and workshop. Robert A. Bruce, ATC Technical Director, served as Principal Investigator and provided overall guidance and direction for the project. Steering Committee members T. T. Soong (Co-Chair), Christopher Rojahn (Co-Chair), Mircea Grigoriu, Ronald Haupt, Y. K. Lin, G. D. Manolis, Philip J. Richter, Shahram Sarkani, P. D. Spanos, William Staehlin and Terry Sun developed the seminar and workshop programs, reviewed seminar technical paper abstracts and drafts, and served as workshop working group chairs. Richard M. Drake recorded the conclusions and recommendations of the workshop working groups. The affiliations of these individuals are provided in Appendix A. Patty Christofferson, ATC Manager of Administration and Public Relations, served as seminar and workshop registrar and arranged hotel/seminar/workshop accommodations. Melody Escobar of ATC assisted in registration and preparation of the workshop summary and index.

ATC and the sponsoring agencies do not endorse any specific opinions, systems or devices presented.

Christopher Rojahn
ATC Executive Director

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