

ATC-20-1

Field Manual: Postearthquake Safety Evaluation of Buildings Second Edition

by

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Preface

In July 1987, the California Governor's Office of Emergency Services (OES), the California Office of Statewide Health Planning and Development (OSHPD), and the Federal Emergency Management Agency (FEMA), jointly awarded the Applied Technology Council a contract to develop procedures for evaluating building safety after earthquakes. This led to the development of the ATC-20 report *Procedures for Postearthquake Safety Evaluation of Buildings*, which was published in 1989.

ATC-20 provides procedures and guidelines for the safety evaluation of damaged buildings. These procedures and guidelines are written specifically for volunteer structural engineers, as well as building inspectors and structural engineers from city building departments and other regulatory agencies, who would be required to make on-the-spot evaluations and decisions regarding the continued use and occupancy of damaged buildings.

To provide the ATC-20 methodology in a concise, easy-to-use field reference document, this Field Manual was developed as part of the ATC-20-1 project, a follow-on project sponsored by OES and OSHPD. The Field Manual is intended to be taken into damaged areas and used by those trained in the ATC-20 methodology.

Additional discussion and background on the building evaluation methodology used in this manual is given in the ATC-20-2 report *Addendum to the ATC-20 Postearthquake Building Safety Evaluation Procedures* (1995), prepared by the Applied Technology Council. It is desirable that users of this manual be familiar with both ATC-20 and ATC-20-2. In addition, the ATC-20-3 report, *Case Studies in Rapid Postearthquake Safety Evaluation of Buildings*, published in 1996, provides more than 50 detailed case studies of safety evaluation on a wide range of building types and damage conditions.

The first edition of the ATC-20-1 Field Manual was published in 1989. This second edition has been updated to include:

- the RESTRICTED USE placard, which was introduced in 1995 (replacing the LIMITED ENTRY placard),
- updated evaluation forms, which were also introduced in 1995,
- new examples,
- more information on steel moment-frame buildings,
- a chapter on mobile homes and manufactured housing,
- guidance on aftershocks and entering damaged buildings,
- new information on barricading, and
- resources available on the internet pertaining to postearthquake safety evaluation.

R. P. Gallagher Associates, Inc., a structural and earthquake engineering firm with experience in the seismic evaluation of buildings, served as the project subcontractor and prepared the original Field Manual and this updated version. Ronald P. Gallagher served as Principal-in-Charge.

Members of the Project Engineering Panel who provided overall review and guidance for this second edition of the ATC-20-1 Field Manual were: David R. Bonneville, Nick Delli Quadri, Maryann T. Phipps, Richard A. Ranous, James E. Russell, William E. Staehlin, and Zan Turner. RDD Consultants prepared the manuscript for publication.

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