SUMATRA-ANDAMAN ISLANDS EARTHQUAKE AND TSUNAMI OF DECEMBER 26, 2004

LIFELINE PERFORMANCE

Edited by Carl Strand and John Masek




Technical Council on Lifeline Earthquake Engineering
Monograph No. 30
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ASCE ice

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Preface

The Earthquake Investigation Committee of the Technical Council of Lifeline Earthquake Engineering (TCLEE), American Society of Civil Engineers (ASCE), was established to initiate, organize, train for, coordinate and evaluate the performance of lifelines following earthquakes. Members of the committee are employees of lifeline industries, consulting engineers, and academics from the United States and Canada.

Members of the investigation team coordinate with other groups and may participate in groups organized by other organizations. Team members gathered data illustrative of poor performance as well as good performance. Information may be used by design professionals and public officials as well as facility owners. The foreign earthquakes that have been investigated include the 1985 Chile, 1988 Soviet Armenia, 1990 Philippines, 1991 Costa Rica, 1992 Turkey, 1994 Kobe, 1999 Kocaeli, 1999 Chi-Chi, and 2003 Algeria earthquakes.

The Kobe earthquake report was the first foreign earthquake investigation report published by ASCE as a TCLEE monograph. The first domestic earthquake investigation report published by ASCE as a TCLEE monograph was for the Northridge earthquake. Prior to this time TCLEE prepared a lifeline report that was published by the Earthquake Engineering Research Institute (EERI). The Earthquake Investigation Committee (EIC) continues to cooperate with EERI to provide an abbreviated version of lifeline performance in Earthquake Spectra (EERI publication). TCLEE also publishes brief preliminary reports on the ASCE/TCLEE Web, page.

To provide information on the tectonic and ground motion data, experts in these fields are often asked to contribute to the reconnaissance report. This information is of value in providing a perspective to the lifeline damage report.

This ASCE earthquake investigation monograph is unique in comparison with other monographs to date in several respects. First, the geographic regions affected are far broader than any monograph to date. Second, this monograph includes not only interested committee finding but also augments the discussion of each topic via Internet research.

This supplemental research was conducted to confirm overall findings from initial on ground investigations by the ASCE/TCLEE/EIC team. It was conducted primarily by Carl Strand of the EIC. Source reliability was a screening factor in this research; however, like all nonpeer-reviewed data on any unofficial Web site, the reliability of Internet reference data is not absolute.

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For more information, visit the TCLEE publication Web site, page at www.asce.org/instfound/techcomm_tclee_pubs.cfm.

ASCE Manual

Schiff, Anshel J., Editor, Guide to Improved Earthquake Performance of Electric Power Systems, ASCE Manual 96.

TCLEE Earthquake Investigation Reports

TCLEE has also prepared numerous earthquake reports that have appeared in other publications. References to these reports and ten short reports associated with TCLEE monographs can be viewed on the ASCE/TCLEE web site address given below. The ten short reports are each about 5 to 15, pages long, contain a summary of main observations and some pictures and can be downloaded.

www.asce.org/community/disasterreduction/tclee_home.cfm

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