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PROCEEDINGS
of the
INTERNATIONAL SYMPOSIUM
on
SEISMIC AND ENVIRONMENTAL ASPECTS
of
DAMS DESIGN:
EARTH, CONCRETE AND TAILINGS DAMS

Volume I

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PREFACE

Seismic risk and environmental requirements pose severe conditions for the design of earth, concrete and tailings soils structures in the present state-of-the art of dams engineering.

Tailings dams, in particular, are soil structures with a history of seismic failures and catastrophic losses of human lives, large property damages and pollution of valuable lands. Excessive requirements for safety, which have been developped as a natural consequence of the will to avoid repetitions of such failures, have resulted in steadily growing costs of construction and operation. Presently, there is an urgent need to revise the analytical methods of design for tailings dams, and also a need for comparing predicted versus observed behavior of these structures under dynamic loadings.

The design of earth and rockfill dams has also experienced new advances in recent years, such as upstream concrete (CFRD) and composite soil-geomembranes facing, which pose interesting questions for the prediction of performance under seismic loading, as well as for environmental effects.

To provide a forum for discussion of these subjects, the Technical Committee TC-7 on Tailings Dams of the International Society for Soil Mechanics and Foundation Engineering, the Chilean National Committee of the International Commission on Large Dams and the Chilean Geotechnical Society have organized the present International Symposium on Seismic and Environmental Aspects of Dams Design: Earth, Concrete and Tailings Dams.

The Proceedings of the Symposium are to be published in this Volume I, which includes the papers submitted, and Volume II, to be issued after the event, and which shall include the invited lectures, general reports and discussions. It is hoped that the materials presented in these Proceedings may be helpful for future research as well as for the practice of Dams Engineering in the future.

Jorge H. Troncoso
Editor

Santiago de Chile, October 1996