



The Role of Dams in the 21st Century

26th Annual USSD Conference
San Antonio, Texas, May 1-6, 2006

Hosted by
San Antonio River Authority

On the Cover

Salado Flood Retention Dam 15R, in San Antonio's McAllisterPark, was completed in October 2004. It was the final in a series of 14 flood control dams along the Salado Creek watershed. The dam has a detention capacity of about 3,500 acre-feet, and allows slower release of accumulated rainfall, lessening the potential for erosion and flooding on the city's east side. It is a Natural Resources Conservation Services-assisted dam constructed through the Bexar Regional Watershed Management partnership, which includes the San Antonio River Authority, City of San Antonio, Bexar County and 20 suburban cities in Bexar County.

U.S. Society on Dams

Vision

To be the nation's leading organization of professionals dedicated to advancing the role of dams for the benefit of society.

Mission — USSD is dedicated to:

- Advancing the knowledge of dam engineering, construction, planning, operation, performance, rehabilitation, decommissioning, maintenance, security and safety;
 - Fostering dam technology for socially, environmentally and financially sustainable water resources systems;
 - Providing public awareness of the role of dams in the management of the nation's water resources;
 - Enhancing practices to meet current and future challenges on dams; and
 - Representing the United States as an active member of the International Commission on Large Dams (ICOLD).
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FOREWORD

The theme of the 26th USSD Conference was *The Role of Dams in the 21st Century*. The Conference technical program was organized by several USSD Committees under the leadership of **John W. France**, URS Corporation.

The technical program focused on a broad range of topics that relate to applications of current engineering technologies for dams and their roles in today's society. Dam engineers, owners and operators shared and discussed new and innovative technologies in engineering, construction, monitoring, operating, safety, risk management and decommissioning. Proven technologies for embankment dams, concrete dams, spillways, environmental enhancement, project delivery, dam security, hydraulics, hydrology, instrumentation, and seismic and geotechnical issues were discussed.

A total of 49 papers are included in this Proceedings. Authors include specialists with broad experience from government agencies, utilities, academia, water districts, consulting firms and private industry.

The Conference Organizing Committee extends thanks and appreciation to the Host of the 26th Annual Meeting and Conference, the **San Antonio River Authority**.

Special thanks are also extended to the Committee Members who selected the abstracts and reviewed the technical papers, and to the authors who prepared the papers included in this Proceedings.

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