

United States Society on Dams



# **Modernization and Optimization of Existing Dams and Reservoirs**

27th Annual USSD Conference  
Philadelphia, Pennsylvania, March 5-9, 2007



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Hosted by  
U.S. Army Corps of Engineers

## On the Cover

The Corps of Engineers' Beltzville Lake in East-Central Pennsylvania. In this south-facing photo, from the bottom to the top, features include the project office, the emergency spillway, the 4,560-foot long embankment, the intake tower, and a series of ridges of the Appalachian front. Beltzville Lake is on Pohopoco Creek, which drains into the Lehigh River. The Lehigh River's water gap through Blue Mountain can be seen in the background of the photo. (Photo by Anthony S. Bley.)

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## 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 27th USSD Conference was *Modernization and Optimization of Existing Dams and Reservoirs*. The Conference technical program was organized by several USSD Committees under the leadership of **Robin G. Charlwood**, Robin Charlwood & Associates.

The technical program addressed opportunities and technologies for dam owners and operators to help meet public and government expectations for achieving the maximum benefits from the extremely valuable existing national dam infrastructure. Topics included the use of risk and asset management tools to identify the needs and benefits of modernization; opportunities to increase storage and optimize operation of dams and reservoirs; and technologies, materials and skills required to implement these opportunities.

A total of 61 papers are included in the 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 27th Annual Meeting and Conference, the **Corps of Engineers**.

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 the Proceedings.

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