

32nd USSD Annual Meeting and Conference

April 23-27, 2012



**Hosted by
Corps of Engineers**

Conference Theme

***Innovative Dam and Levee Design and Construction for
Sustainable Water Management***

Three Concurrent Workshops — April 26

**Hyatt Regency
New Orleans, Louisiana**

Conference Overview

The Theme of the 2012 USSD Conference is ***Innovative Dam and Levee Design and Construction for Sustainable Water Management***. The responsibility of the dams and water resources community to create sustainable projects that are sensitive to environmental, social, financial, geographical and political needs of the world's population is ever increasing. Issues such as climate change, sustainability and clean energy provide significant challenges in planning, design, construction, operation and maintenance of successful dam and levee projects.

The Conference Theme highlights the need for innovation and collaboration, not only in the design and construction phases, but also during planning and operation. Given the recent energy and water management events on the Louisiana Gulf Coast, New Orleans is an excellent venue to convene national and international experts for presentations on the many technical and management facets of dam projects.

The **Opening Plenary Session** on Tuesday morning will begin with ICOLD and ASDSO updates, followed by several presentations addressing contemporary topics of interest to dam professionals.

Five **Concurrent Technical Sessions** on Tuesday afternoon and Wednesday, and a **Poster Session** Tuesday evening, will feature the presentation of more than 100 technical papers.

On Thursday morning, a 90-minute briefing on New Orleans levees and flood control projects will be followed by a field tour of nearby levees and other infrastructure. Three concurrent Workshops will also follow the field tour briefing. An all-day field tour on Friday concludes the outstanding Conference program.

Lunch speakers are **Janet Herrin**, Tennessee Valley Authority and **Brian Becker**, Bureau of Reclamation. The Wednesday dinner speaker will be a representative of the Corps of Engineers.

The Wednesday Awards banquet will feature the presentation of the **Outstanding Paper Awards**, and awards for **Excellence in the Constructed Project** and **Lifetime Achievement**. The winners of the 2012 **USSD Scholarships** will also be announced.

Acknowledgments

The Conference technical program was organized jointly by several USSD Committees under the leadership of **Manoshree Sundaram**, MWH. **Jerry Webb** represented the Conference Host, the Corps of Engineers, with support from the New Orleans District.

Host

The **Corps of Engineers** will serve as Host of the 32nd Annual Meeting and Conference, including organization of the field tours.

Exhibition and Sponsorships

An **exhibition** featuring water resources related goods and services will be held during the Conference. The exhibition will open with a reception on Monday evening; continental breakfasts, lunches and breaks on Tuesday and Wednesday, and a reception Tuesday evening will be held in the exhibit area to ensure maximum interaction with Conference participants.

Sponsorships for Conference activities and products are also available. For exhibitor and sponsor information, go to www.usdams.org/12exhibit.html.

Venue

The Conference will be held at the **Hyatt Regency New Orleans**. Damaged by Hurricane Katrina, the hotel recently re-opened following a five-year reconstruction. Near the Louisiana Superdome, the Hyatt Regency is just blocks from the French Quarter and the Mississippi River waterfront. The hotel features almost 1,200 guest rooms, a 24-hour fresh market, several restaurants and lounges, a spa and fitness center, and a huge outdoor leisure deck with pool.

Young Professionals

To encourage Young Professionals to participate in the Conference, a discounted registration rate is offered to those age 35 and under. A Tuesday evening dessert reception offers an opportunity for Young Professionals to network with the Board of Directors. And, an Outstanding Paper Award will go to a Young Professional Author.

USSD Committee Meetings

Committee Meetings, to be held on Monday, are an important part of the Annual Meeting. Committees meet for part or all day — a schedule will be available online a few weeks prior to the Conference. All Conference participants are welcome to attend these committee meetings:

- Awards
- Concrete
- Construction and Rehabilitation
- Dam Decommissioning
- Dam Safety and Dam Security
- Earthquakes
- Environment
- Foundations
- Hydraulics of Dams
- ICOLD Congress Papers
- Levees
- Materials for Embankment Dams
- Membership
- Monitoring of Dams and Their Foundations
- Newsletter
- Public Awareness
- Tailings Dams

Annual Meeting of Members

All Conference participants are invited to attend the USSD **Annual Meeting of Members** on Monday afternoon. Following a brief review of current USSD activities, Members will have an opportunity to present their ideas and suggestions about USSD to the Board of Directors.

Kick-Off Reception/Exhibition Opening

Each year, USSD Conference participants and guests look forward to the annual **Monday evening reception** to network, make new professional contacts and socialize. A highlight of this year's reception will be the opening of the **Exhibition**, featuring nearly 60 organizations offering products and services to the dam profession.

Online Conference Information

The Final Program, online registration and Exhibitor/Sponsor information and reservation forms are at www.usdams.org/2012conf.html.

Hotel Reservations

The Conference and Workshops will be held at the **Hyatt Regency New Orleans**, 601 Loyola Avenue, New Orleans, LA 70113, 504-561-1234, www.neworleans.hyatt.com.

The special rate for USSD Conference participants is \$219 single or double, plus taxes and fees. To make reservations, call 888-421-1442 and request the special USSD rate. Or, take the link from the USSD website for Hyatt online reservations.

The room block rate is guaranteed only through **March 20**, or until the room block fills. Reservations after March 20 will be at the prevailing room rate, subject to availability.

Conference and Workshop Registration

The **Conference Registration Fee** for the Annual Meeting and Conference includes:

- Conference Proceedings
- Technical sessions
- Monday evening kick-off reception
- Continental breakfasts Tuesday and Wednesday
- Lunches Tuesday and Wednesday
- Tuesday evening reception
- Wednesday reception and dinner
- Field Tour or a Workshop on Thursday, with lunch
- Friday Field Tour, with lunch

The fee is \$925 for USSD Members and \$1,025 for non-members, with a **\$100 discount for early registration**. A **Young Professional Fee** of \$450 is available to participants age 35 and younger. To receive the Early Registration Rate, you must register by **April 13**. The Late Registration Fee applies to registrations received after April 13 and on-site registrations. The Registration Fee can be paid by check; VISA, MasterCard or Discover; or purchase order.

Cancellation Policy: To receive a refund, USSD must receive notice of cancellation by the end of business on **April 16**. All refunds are subject to a \$25 processing fee. After April 16, the registration fee is not refundable, but substitutions are acceptable.

To register for the Conference or a Workshop, complete and return the Registration Form, or register online at www.usdams.org/2012conf.html.

Field Tours

Thursday Field Tour

The tour will begin at 10:00 a.m., following a 90-minute briefing of the Corps of Engineers' various flood protection and hurricane protection projects in the New Orleans area. First stop will be the **Greater New Orleans Hurricane Storm Damage Risk Reduction System**, designed for the 100 year level of protection.

Next, the group will travel west to the **West Return Wall Floodwall** to view and discuss the impressive T Walls. This will include a tour of the newly constructed **Elmwood Pump Station** which highlights the complexity of flood protection designs at the discharge area into Lake Pontchartrain while maintaining adequate pump operation.

Following the tour of the Elmwood Pump Station, the group will view the floodgates and levees fronting **Lake Pontchartrain**. After taking in these world-class flood protection structures, the group will continue eastward along Lake Pontchartrain to the **17th Street Canal**, for a tour of the **Interim Control Structures Pumping Station** and unique operator safe houses. The group will stop at a local seafood specialty restaurant to savor some local delicacies.

Following lunch, the group will view the **Seabrook Floodgate**, followed by a tour of the record-setting **Western Closure Complex** which will include the 225-foot sector gate, the largest in the nation, and the impressive 19,140 cfs pumping station, the world's largest.

Friday Field Tour

The Friday field tour will begin at 8:00 a.m. with a visit to the **Bonnet Carré Spillway** at the Mississippi River, followed by a tour of floodway operations.

Next, the group will travel east for to tour the newly constructed **Elmwood Pump Station** flood protection project which is part of the HSDRRS 100-yr level of protection at the discharge into Lake Pontchartrain.

The tour will then continue along the Lake Front to view the floodgates and levees fronting **Lake Pontchartrain**. The group will continue eastward along the Lake to the **17th Street Canal** to tour the **Interim Control Structure Pumping Station** and safe house followed by a lunch stop at a local New Orleans specialty restaurant.

Following lunch, the group will continue to the **Seabrook Floodgate** followed by a visit to the **Caernarvon Freshwater Diversion Structure** at the Mississippi River.

The final stop of the field trip will be a tour of the **Inner Harbor Navigation Canal Lock**. The tour will return to the hotel at 5:00 p.m.

Workshops

Three concurrent Workshops will be held from 10:00 a.m. to 5:00 p.m. on Thursday, April 26. Attendance at either Workshop is included in the Conference Registration Fee. For those **not** attending the Conference, the Workshop fee is \$250.

Summaries of each Workshop are presented below. More detailed agendas, with speakers, may be found on the USSD conference website.

Approaches to Meet Spillway Design Flood Requirements

Moderator — **Steven L. Barfuss**, Utah State University

Workshop Summary

Introduction/Overview

- Spillway Hydraulics Overview
- Spillway Capacity Requirements
- Common Approaches to Meet Design Flood Requirements

"3D" Spillways

- Drop Inlet Spillways (rectangular, semicircular)
- Labyrinth Spillways
- Piano Key Weirs

Gated Spillways

- Underflow vs Overflow Gates
- Fusegates

Embankment Armoring

- RCC vs ACB
- Crest Control and Design
- Slope Design
- Stilling Basins and Terminal Structures

Considerations in Selecting and Designing Upgrades

- Flooding Impacts of Spillway Upgrades
- Design Considerations for Spillways/Upgrades
- Example Problems

Design and Construction of Remedial Seepage Measures for Embankment Dams

Moderator — **Craig W. Harris**, MWH

The **USSD Committee on Materials for Embankment Dams** will present this Workshop, building on the similar workshops presented by USSD in 2005 (Durango, Colorado) and 2006 (San Antonio). The workshop will start with an overview of seepage failure modes, followed by a presentation on how to identify seepage problems. Next there will be three presentations on remedial measures for seepage (cutoff walls, filters and drains, and seepage along conduits) using case histories. The workshop will wrap up with a presentation on monitoring and instrumentation for seepage remedial measures and a question and answer period.

Workshop Summary

Evaluation of Seepage Through Dams

(What are the failure modes and how to evaluate them — risk analysis/best practices)

How Do I Know if I have a Seepage Problem

(What to look for in aging dams)

Cutoff Walls for Remedial Seepage Control

(Design and construction using case histories)

Seepage Collection and Filters for Remedial Seepage Control

(Design and construction using case histories)

Control of Seepage Along Conduits

(Design and construction using case histories)

Monitoring and Instrumentation Following Seepage Remedial Measures

(How do I know it worked?)

Panel Discussion and Q & A

Lessons Learned in Sustainable Levee Infrastructure

Moderators — **Dean B. Durkee**, Gannett Fleming, Inc.; and **John S. Wolhope**, Freese and Nichols, Inc.

Introduction and Overview

Robustness

- Performance of Levees during Japanese Tsunami
- Varying Factors of Safety According to Uncertainty for New Orleans
- Western Closure Example

Resiliency

- Including Resiliency in Design of Levee Systems
- Application of Erosional Equivalency Method to Hypothetical Levee System
- Armoring for Sustainable Levees
- More Resilient Levee Design

Redundancy

- Dutch Poldering
- Human Intervention
- Tolerable Risk
- Four Methods of Estimating Risk

Continuing Education Units

Colorado State University, Division of Continuing Education, will grant CEUs after successful completion of the Conference and/or a Workshop. CEU information will be available at the Conference.

Guest Program

Guests will have an opportunity to Meet and Mingle during a coffee reception on Tuesday morning. A representative from the New Orleans Visitors and Convention Bureau will introduce guests to the city and its many attractions. This event will be an opportunity for guests to join others in activities or tour to be arranged on your own.

There are many companies that provide tours of New Orleans attractions. Information on some of these tours will be available at the Meet and Mingle event.

Guests will also enjoy the following Conference activities:

- Monday evening Kick-Off Reception
- Continental Breakfasts on Tuesday and Wednesday
- Tuesday morning Meet and Mingle Reception
- Reception on Tuesday evening
- Reception and awards banquet on Wednesday
- Field Tours and lunches on Thursday and Friday

The Guest Registration Fee is \$325.

Guest Program Agenda

Monday, April 23

6:00 p.m. - 8:00 p.m. **Kick-Off Reception**

Tuesday, April 24

7:00 a.m. - 8:00 a.m. **Continental Breakfast**

10:00 a.m. - 11:00 a.m. **Meet & Mingle**

5:30 p.m. - 7:30 p.m. **Reception**

Wednesday, April 25

7:00 a.m. - 8:00 a.m. **Continental Breakfast**

7:00 p.m. - 10:00 p.m. **Reception and Dinner**

Thursday, April 26

10:00 a.m. - 5:00 p.m. **Field Tour and Lunch**

Friday, April 27

8:00 a.m. - 5:00 p.m. **Field Tour and Lunch**

Program Summary

Sunday, April 22

4:00 p.m. - 7:00 p.m.

Registration

Monday, April 23

7:00 a.m. - 6:00 p.m.

Registration

9:00 a.m. - 4:30 p.m.

Committee Meetings

4:30 p.m. - 6:00 p.m.

Annual Meeting of Members

6:00 p.m. - 8:00 p.m.

Kick-off Reception/Exhibition Opens

Tuesday, April 24

7:00 a.m. - 8:00 a.m.

Continental Breakfast in Exhibit Hall

7:00 a.m. - 5:30 p.m.

Registration

8:00 a.m. - 9:30 a.m.

Opening Plenary Session

9:30 a.m. - 10:00 a.m.

Break in Exhibit Hall

10:00 a.m. - 12:00 noon

Opening Plenary Session, continued

12:00 noon - 1:15 p.m.

Lunch with Speaker

1:30 p.m. - 3:00 p.m.

Five Concurrent Sessions 1

3:00 p.m. - 3:30 p.m.

Break in Exhibit Hall

3:30 p.m. - 5:30 p.m.

Five Concurrent Sessions 2

5:30 p.m. - 7:30 p.m.

Reception, Exhibition & Poster Session

Wednesday, April 25

7:00 a.m. - 8:00 a.m.

Continental Breakfast in Exhibit Hall

7:00 a.m. - 5:30 p.m.

Registration

8:00 a.m. - 9:30 a.m.

Five Concurrent Sessions 3

9:30 a.m. - 10:00 a.m.

Break in Exhibit Hall

10:00 a.m. - 12:00 noon

Five Concurrent Sessions 4

12:00 noon - 1:15 p.m.

Lunch with Speaker

1:30 p.m. - 3:00 p.m.

Five Concurrent Sessions 5

3:00 p.m. - 3:30 p.m.

Break in Exhibit Hall; Exhibition closes

3:30 p.m. - 5:30 p.m.

Five Concurrent Sessions 6

7:00 p.m. - 10:00 p.m.

Reception and Dinner

Thursday, April 26

7:30 a.m. - 8:00 a.m.

Workshop Registration

8:00 a.m. - 9:30 a.m.

Field Tour Briefing

9:30 a.m. - 10:00 a.m.

Break

10:00 a.m. - 5:00 p.m.

Three Concurrent Workshops

10:00 a.m. - 5:00 p.m.

Field Tour — New Orleans Levees

Friday, April 27

8:00 a.m. - 5:00 p.m.

Field Tour —

USSD 2012 Annual Meeting and Conference and Workshops Registration Form

**To register, complete and return this Form to USSD,
or register online at www.usstdams.org/2012conf.html.**

Given Name _____ Family Name _____

Organization _____

Address _____

City _____ State/Province _____ Zip/Postal Code _____ Country _____

Telephone _____ Fax _____ E-mail _____

First Name or Nickname (for name tag) _____

Guest Name _____

Special Dietary Requirements — I do not eat _____

Arrival Date _____ Departure Date _____

With a 0, 1 or 2, indicate the number of participants and guests who will participate in the tours:

Thursday Field Tour _____ Friday Field Tour _____

USSD Conference Registration Fees

Conference fee, USSD Member Early* — \$825	\$ _____	Workshop Only — \$250	\$ _____
Conference fee, USSD Member — \$925	\$ _____	Student Registration — \$150	\$ _____
Conference fee, Non-Member Early* — \$925	\$ _____	(Includes all Conference activities except the Wednesday reception and dinner, a Thursday Workshop and the Thursday and Friday Field Tours.)	
Conference fee, Non-Member — \$1025	\$ _____	Student Workshop — \$100	\$ _____
Conference fee, Young Professional — \$450	\$ _____	Student Field Tour Thursday — \$25	\$ _____
Author/Co-Author fee — \$775	\$ _____	Student Field Tour Friday — \$25	\$ _____
Please check if you will attend a Workshop:		Guest Registration — \$325	\$ _____
<input type="checkbox"/> Spillway Design		(Includes Monday kick-off reception, Tuesday Meet and Mingle, Tuesday reception, Tuesday and Wednesday continental breakfasts, Wednesday reception and dinner, Thursday and Friday tours and lunches.)	
<input type="checkbox"/> Remedial Seepage Measures			
<input type="checkbox"/> Levees — Lessons Learned			
Conference Attendee — No Fee for Workshop		Total Registration Fees	\$ _____

*To receive the **Early Registration Fee**, your **online registration**, or this Registration Form, must be received in Denver by **April 13**. The Late Registration Fee applies to registrations received after April 13 and on-site.

Payment should accompany this form. Pay by P.O.; cash; check; or VISA, MasterCard or Discover.

Check Enclosed Purchase Order # _____

VISA/MasterCard/Discover # _____

Expiration Date _____ Signature _____

Name on Credit Card _____

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