

USSD COMMITTEE ON MONITORING OF DAMS AND THEIR FOUNDATIONS CHARTER

Approved by the Board of Directors on 7/22/15

COMMITTEE DESCRIPTION

The Monitoring of Dams and Their Foundations Committee supports and promotes the advancement of the state-of-the-art in the field of instrumented and visual monitoring of dams. The Committee membership includes professionals from: (1) government or private organizations that own and operate dams, (2) government organizations that regulate dam owners, (3) consulting engineers that provide engineering services to dam owners, and (4) suppliers that provide equipment used in the instrumented or visual monitoring of dams. The Committee discusses technical issues, develops guidelines and publications, presents workshops, and generally promotes the advancement and optimization of techniques with respect to the monitoring of dams, with the effectiveness of these efforts being enhanced by the diverse backgrounds, experiences, and perspectives of the various Committee members.

The Committee works in support of the mission and activities of USSD, and in support of the International Commission on Large Dams (ICOLD) Technical Committee on Dam Surveillance, which currently has the following special focus areas: (1) methods for the improvement of the quality and reliability of information, (2) data processing and representation techniques, (3) effective diagnostic analyses to determine dam behavior patterns, (4) dedicated surveillance systems for the optimization of maintenance, rehabilitation, and other life cycle costs, and (5) lessons that can be learned from monitoring case histories.

TERMS OF REFERENCE

The Monitoring of Dams and Their Foundations Committee was established by the Board of Directors of USSD. The Monitoring of Dams and Their Foundations Committee is charged with providing technical support to the USSD, focusing on the role of monitoring the stability and operational performance of water resource structures. The Committee provides other assistance and support to the efforts and programs of USSD on an ongoing basis. Further, the Committee assists and supports the efforts of the ICOLD Technical Committee on Dam Surveillance. The Committee keeps the general membership of USSD informed of developments in the area of dam monitoring and surveillance through timely publication of reports and white papers, announcements in the USSD Newsletter, input to the committees section of the USSD website, and in the organization and execution of periodic workshops. The Committee also collaborates and/or assists with other committees in developing and promoting education and training activities under the four imperatives of the 2014-2017 Strategic Plan: Advocate, Educate, Collaborate, Cultivate.

BACKGROUND AND HISTORY

The USSD Monitoring of Dams and Their Foundations Committee has been in existence for

more than 30 years. Some notable Committee publications include:

- General Considerations Applicable to Performance Monitoring of Dams (1986).
- General Guidelines and Current U.S. Practice in Automated Performance Monitoring of Dams (1993).
- General Guidelines for Automated Performance Monitoring of Dams (2002).
- White Paper: Why Include Instrumentation in Dam Monitoring Programs? (2008).
- White Paper: Development of an Instrumentation Program (2013).
- White Paper: Instrumentation Data Management and Analysis (2013).
- White Paper: Routine Instrumented and Visual Monitoring of Dams Based on Potential Failure Mode Analysis (2013).
- White Paper: Operation and Maintenance of an Instrumentation System (currently in development).

Workshops conducted in recent years include:

- Dam Surveillance and Monitoring (2006 USSD/FERC Workshop).
- Dam Surveillance and Monitoring (2007 USSD/FERC Workshop).
- State-of-the-Art Technologies for Monitoring Dams and Levees (Workshop at 2013 USSD Annual Meeting and Conference).
- State-of-the-Art Technologies for Monitoring Dams and Levees (Workshop at 2013 ICOLD Meeting).

ICOLD Bulletins that the Committee participated in the development of include:

- Monitoring of Dams and Their Foundations – State-of-the-Art (ICOLD Bulletin 68, 1988).
- Improvement of Existing Dam Monitoring – Recommendations and Case Histories (ICOLD Bulletin 87, 1992).
- Automated Dam Monitoring Systems – Guidelines and Case Histories (ICOLD Bulletin 118, 2000).
- General Approach to Dam Surveillance (ICOLD Bulletin 138, 2009).
- Dam Surveillance Guide (ICOLD Bulletin 158, currently in development).

The Chairmen of the Committee since 2000 have been James Brown (U.S. Army Corps of Engineers), James Hummert (URS Corporation), and Jay Stateler (U.S. Bureau of Reclamation).

CHAIR, AND VICE CHAIRS AND RELATED RESPONSIBILITIES

Chair: Jay Stateler

Vice Chair: Chris Hill

Vice Chair (Young Professionals): Amanda Sutter

SUBCOMMITTEES

The Committee currently has formed the following Subcommittees to address specific issues:

- A. Subcommittee on Monitoring Levees
- B. Subcommittee on Training of On-Site Dam Operation Personnel
- C. Subcommittee on Seismic Instrumentation of Dams
- D. Subcommittee on Fully Grouted Piezometer Installations
- E. Subcommittee Presenting a USSD Technical Workshop on the Topic: “Providing Appropriate Instrumentation for Dams – Implementing Properly Focused, Cost-Effective Monitoring Programs”
- F. Subcommittee working on the White Paper titled “Operation and Maintenance of an Instrumentation System”

MEMBERSHIP AND CURRENT SUBCOMMITTEE INVOLVEMENT

Member	Subcommittee					
	A	B	C	D	E	F
Jay Stateler, Chair	X	X		X	X	
Chris Hill, Vice Chair			X		X	
Amanda Sutter, Vice Chair		X				X
Richard Anderson			X			
Emeruwa Anyanwu		X				
Paul Booth				X	X	
Pierre Choquet	X			X	X	X
Brett Cochran		X		X		
Shaun Dustin						X
Georgette Hlepas					X	
Jim Hummert						
John Hynes					X	
John Lemke	X					
Steve Meyerholtz	X			X	X	
Dustin Mortensen				X		

Member	Subcommittee					
	A	B	C	D	E	F
Barry Myers	X			X	X	
Matthew Pruchnik		X				
Gerald Robblee				X	X	
Bruce Rogers			X		X	
Rudy Saavedra				X	X	
Manoshree Sundaram		X			X	
Travis Tutka						
Olga Zabawa			X			

In addition to the Committee members listed above, Justin Nettle, Keith Thole and Bill Walker, have expressed, in the past, an interest in joining the Committee and becoming active in the work of the Committee, and David Panec has expressed an interest in being an “intermittent” member of the Committee at this time. Also, the following people are in “Friends of the Committee Status” as they (a) have been active regarding Committee work in the past, (b) they are not currently active Committee members, and (c) they would like to be kept on the Committee email information distribution list: Jay Cerceo, Jim Hamby, Dalong Huang, and Brad Long.

At the present time, the Committee has an appropriate number of active Committee members, and has a good mix of members from: (1) government or private organizations that own and operate dams, (2) government organizations that regulate dam owners, (3) consulting engineers that provide engineering services to dam owners, and (4) suppliers that provide equipment used in the instrumented or visual monitoring of dams. The Committee is always looking to add new members to bring new ideas and fresh perspectives to Committee discussions, with a special interest regarding attracting new Young Professionals to the Committee. With this in mind, the following membership-related activities are conducted on an ongoing basis:

- The Committee views that the best way to attract new members is to be a vibrant Committee that always has a number of Subcommittees actively engaged in interesting and important projects.
- The Committee has a Vice-Chair for Young Professionals, Amanda Sutter, who is also the Chair of the USSD Young Professionals Committee. As Amanda networks with Young Professionals in USSD generally, she looks for opportunities to steer appropriate Young Professionals toward involvement and membership in the Committee.
- When people that are not Committee members attend Committee meetings, the Committee Chair follows up with the people to explore possible interest in joining the Committee. When the people are Young Professionals, the Vice-Chair for Young Professionals coordinates additional follow-up efforts, as are viewed to be appropriate.

- The Chair and Vice-Chair for Young Professionals periodically review the Committee membership, looking for gaps in the spectrum of organizations and disciplines that could and should have representation on the Committee. Where gaps are identified, a recruitment plan is developed and implemented.

GOALS AND OBJECTIVES

The Committee will work to develop and promote education and training activities under the four imperatives of the 2014-2017 Strategic Plan: Advocate, Educate, Collaborate, and Cultivate.

Activities planned to be undertaken and completed by the Committee over the next three years include the following:

Advocate:

1. Support initiatives in this area developed by the USSD Board.

Educate:

1. Complete a White Paper titled “Operation and Maintenance of an Instrumentation System”.
2. Develop a White Paper regarding Seismic Instrumentation of Dams.
3. Develop a White Paper regarding Fully Grouted Piezometer Installations.
4. Present a USSD Technical Workshop on the topic: “Providing Appropriate Instrumentation for Dams – Implementing Properly Focused, Cost-Effective Monitoring Programs”.

Collaborate:

1. Support completion by ICOLD of ICOLD Bulletin 158, Dam Surveillance Guide.
2. Work with ASDSO with respect to developing a publication regarding “Training of On-Site Dam Operation Personnel”.
3. Work with members of the USSD Levees Committee to jointly prepare a White Paper regarding Monitoring Levees.

Cultivate:

1. Conduct Committee conference calls on a quarterly schedule.
2. Improve the interaction between the Committee and USSD Conference Planning Committees relative to having the Committee coordinate and perform technical reviews of all papers to be presented at USSD conferences that relate to instrumentation and monitoring.

The planned actions and timeframes associated with the current work of the Committee are summarized in the table below.

Imperative	Goal and Objective	Action	Measurement
Advocate	Support initiatives in this area developed by the USSD Board	Respond promptly to initiatives in this area developed by the USSD Board	Prepare a response to initiatives received within 30 days
Educate	Complete a White Paper titled "Operation and Maintenance of an Instrumentation System"	PRC currently reviewing the White Paper. Respond to comments from PRC and complete White Paper	PRC work completed and White Paper revisions completed such that White Paper is published by 5/1/16
	Develop a White Paper regarding Seismic Instrumentation of Dams	Authors draft White Paper. White paper reviewed by Committee and PRC, and then published	White Paper draft completed by April 2016. White Paper reviews (Committee and PRC) and revisions completed such that White Paper is published by 5/1/17
	Develop a White Paper regarding Fully Grouted Piezometer Installations	Information collection currently underway. Authors draft White Paper. White paper reviewed by Committee and PRC, and then published	White Paper draft completed by December 2016. White Paper reviews (Committee and PRC) and revisions completed such that White Paper is published by 5/1/18
	Present a USSD Technical Workshop on the topic: "What is Appropriate Instrumentation for a Dam?"	Present a USSD Technical Workshop on the topic: "What is Appropriate Instrumentation for a Dam?"	Workshop scheduled from November 3-4, 2015

Imperative	Goal and Objective	Action	Measurement
Collaborate	Support completion by ICOLD of ICOLD Bulletin 158, Dam Surveillance Guide	Prepare five case history write-ups for the Bulletin and provide them to the ICOLD Technical Committee on Dam Surveillance	Five case history write-ups to be provided to the ICOLD Technical Committee on Dam Surveillance by 5/30/15
	Work with ASDSO with respect to developing a publication regarding "Training of On-Site Dam Operation Personnel"	Discussion with ASDSO personnel currently underway. Authors draft White Paper. White paper reviewed by Committee and PRC, and then published	White Paper draft completed by December 2016. White Paper reviews (Committee and PRC) and revisions completed such that White Paper is published by 5/1/18
	Work with members of the USSD Levees Committee to jointly prepare a White Paper regarding Monitoring Levees	Review of White Paper currently underway by PRC	White Paper review by PRC and revisions completed such that White Paper is published by 5/1/16
Cultivate	Conduct Committee conference calls on a quarterly schedule	Conduct Committee conference calls on a quarterly schedule	Conduct Committee conference calls on a quarterly schedule
	Improve the interaction between the Committee and USSD Conference Planning Committees relative to having the Committee coordinate and perform technical reviews of all papers to be presented at USSD conferences that relate to instrumentation and monitoring	Committee reviews of papers for the 2015 Annual USSD Conference were carried out. Perform Committee reviews of papers for all future USSD Annual Conferences	Perform Committee reviews of papers for all future USSD Annual Conferences
	Increase Committee membership to include involvement of young professionals	The Vice Chair - Young Professionals has been created for the Committee, and filled. This Vice Chair actively seeks out other Young Professionals and encourages them to join the Committee	Add at least one new Young Professional to the Committee each year