

# USSD Foundations Committee Charter

Approved 8.12.2020

## Committee Description

The purpose of this technical committee of USSD is to educate, train, and communicate the investigation, evaluation, analysis, design, and construction of foundation systems for dams. The vision of the committee is to be:

- Relevant
- Collaborative
- A store-house and transfer agent of knowledge
- Actively engaged in outreach
- Developing younger members of the profession
- Value-driven

## *Terms of Reference*

The Foundations Committee has been established by the Board of Directors of USSD.

The Committee provides leadership in the state of the practice regarding the foundations of dams. This committee has a broad scope and provides assistance with several other USSD committees because foundations are integral to other items such as monitoring, embankments, levees, construction, concrete dams and structures, and others. A goal of this committee is to collaborate with these other USSD committees and other outside organizations to assemble practice leaders in dam and levee foundations. Additionally, the Committee works to involve younger members and provide products to aid in the development and mentoring of younger practitioners.

The Committee accomplishes these goals through meetings, workshops/symposiums, white papers, lectures, webinars, etc.

## *Background and History*

The Foundations Committee was formed early in the history of technical committees within USSD (then US Committee on Large Dams (USCOLD)).

In addition to assisting on many USCOLD/USSD Annual Meeting organizing committees, significant past accomplishments of the Committee include:

In 2019 convened the second Legacy Lecture at the 2019 USSD annual meeting.

In 2016 convened the first Legacy Lecture at the 2016 USSD annual meeting.

In 2012, participated with the Dams Technical Working Group of the Association of Environmental and Engineering Geologists (AEG) to assist with the 2012 AEG Shlemon Specialty Conference on Dam Foundation Failures and Incidents, held in Denver, CO.

In 2011, met with the Dams Technical Working Group of AEG at the 2011 AEG Annual Meeting in Anchorage, AK to discuss potential collaborative projects.

In 2008, published the white paper “Rock Scour of Dam Foundations,” led by George Annandale.

In 2008, assisted with the organization of a specialty workshop at the Annual Meeting in Portland, OR on Dam Failures and Incidents.

In 2004, organized and held a specialty workshop at the Annual Meeting in St. Louis, MO on Foundation Remediation Alternatives.

In 2001, published the white paper, “Aging of Dam Foundations”.

In 1990, had a significant role in organizing the technical papers and presentations for the USCOLD Annual Meeting in New Orleans, LA on Dam Foundations.

### ***Responsibilities***

There are no specific responsibilities identified by USSD for this Committee other than the typical responsibilities of all technical USSD committees.

### ***Chair, and Vice Chairs***

Current Committee leadership is:

Chair: Douglas Boyer, Federal Energy Regulatory Commission

Vice Chair: Ed Friend, U.S. Army Corps of Engineers

Vice Chair (Young Professional): Dmitri Ivanov

### ***Goals and Objectives***

In accordance with the USSD strategic plan, the Committee’s goals and objectives are to:

1. Advocate
  - Provide technical information to support Advocacy Goals
  - Communicate with committee members relevant outreach information/activities
  - Encourage committee members to advocate within their respective organizations.
  
2. Educate
  - Publish white papers
  - Organize technical sessions at annual meetings
  - Develop and implement conferences and workshops
  - Provide on-line resources
  
3. Collaborate
  - Collaboration within USSD
  - Strategically collaborate with targeted US organizations
  - Strategically collaborate with targeted international organizations
  
4. Cultivate

Improve committee operations  
Develop young professionals into tomorrow practitioners

To meet these goals and objectives, the Committee has identified the following short-term and long-term tasks.

### **Short-term (2020-2022) Committee Tasks**

Tasks include:

1. Publish a white paper on Best Practices for Surface Treatment of Foundations for Dams. This white paper was initially drafted by Norm Tilford.
2. Develop a workshop to present the foundation treatment white paper after publication.
3. Develop a web-based technical resource of pertinent reference documents.
4. In the early stages of organizing a potential workshop in 2020 on methods and procedures for foundation investigation and site characterization for dams and levees.
5. Coordinating with the Hydraulics and Hydrology committee for a spillway scour workshop.
6. Collaborate with the Association of Environmental and Engineering Geologists (AEG) for a future workshop on dam foundation investigation, evaluation, design, and construction.
7. Recruit additional committee members. A focus of this effort will be to attract a diversity of members from various backgrounds (academia, regulatory, owners, construction, suppliers, practitioners, etc.) and on younger members and university students.

### **Long-term (2022 and beyond) Committee Tasks**

The Committee is identifying and prioritizing longer term tasks. Some potential future topics include:

- Case studies on behavior of foundation treatment
- Long term serviceability and performance of barrier walls, anchors and grout curtains
- Performance of foundation improvement with respect to seismic loading
- Repair of existing "piped" foundations
- Static strengthening of foundation soil in limited space
- Seismic improvements of dam and levee foundations
- Exploration of foundations using non-intrusive methods
- Monitoring effectiveness of barrier walls
- Geologic mapping of potential active faults
- Mapping of dam foundation defects and items of interest
- Behavior from severe seismic loading
- Foundation exploration planning
- Probability of risk related to foundation conditions and their treatment
- Seismic strengthening of dam and levee foundations
- Design considerations of penetrations of foundations
- Karstic foundations
- Glacial foundations (moraines, kames, eskers, outwash, etc.)

- PFMA considerations for foundations and development of actions plans to address potential risk during foundation exposure and preparation.

The Committee will be prioritizing and identifying additional potential topics and developing work plans to accomplish the selected tasks.

## ***Membership***

Current Committee membership includes:

Blake Armstrong  
Meredith Beswick  
Richard Bird  
Mike Bivens  
Bill Black  
Philippe Bourdeau  
Doug Boyer, Chair  
Donald Bruce  
Steve Brown  
Don Bruce  
Mike Bruen  
Kerry Cato  
Robert Cannon  
Kenneth Darko  
Richard Davidson  
Ed Friend, Vice Chair  
Brian Greene  
Darrin Harris  
Jeff Hopple  
Rich Humphries  
Dmitri Ivanov, YP Chair  
Mohammad Khan  
Mark Landis  
Ron Lech  
Evan Lindenbach  
Andrew Little  
Kevin Lock  
Andrew Lockman  
Hanna Maas  
Ray Martin  
Hannah Maas  
Rich Millet, Former Chair  
Brad Piede  
Robert Rinehart  
Kevin Richards  
Paul Rizzo  
Inthuorn Sasanakul

Pete Shaffner  
Bryan Simpson  
Gilbert Tallard  
Victor Vasquez  
Robert Wright  
Doug Yadon

As mentioned above, the Committee is currently in the process of recruiting additional members with a focus to increase the diversity of representation on the committee and to attract younger members and students.