

**Minutes of the AFS30 Committee Meeting  
Foundations of Bridges and Other Structures**

Chairman, Mark Morvant

Secretary, Hani Titi

**Date:** Monday, January 12, 2009

**Location:** Marriott Hotel, Washington B4

**Present:** list of members

**Guests:** list of guests

**Call to order:** 7:30 p.m.

**1) Welcome and Approval of the 2008 meeting minutes**

- a) The chair welcomed every one
- b) The chair introduced the list of committee members including the new members
- c) The chairman welcomed the new 10 members joined the committee this year and he recognized the leaving members.
- d) The attendees introduced themselves (60 in attendance)
- e) Agenda, rosters, and other materials were distributed
- f) The chair read the Scope of the committee and asked for comments. The chair mentioned that next year there will be committee self evaluation and he opened the floor for discussion/change the scope.
- g) The minutes of the 2008 meeting were unanimously approved (motion by Dan Brown and Jim Withiam)

**2) General Items**

- a) The chair read the TRB Announcements
- b) Review of Future Goals: future goals from the triennial self evaluation report (TSE) were discussed. Next year the committee is scheduled to have TSE. Volunteers were asked to help in planning for the next three years. A subcommittee was formed to take this task (Brian Liebich, Dan Brown, and Jamal Nusairat).
- c) Discussed the papers submitted to TRB and stated information about the TRB meeting
- d) Jean-Louis Breaud, the Geo-Institute president was given time to talk about Geo-Institute discuss issues in which the following are the main points:
  - i) Asked for input from the committee into how things of interest to geotechnical engineers can be improved
  - ii) Asked for input regarding ideas for Geo-Strata magazine (ASCE-GI publication)
  - iii) Announced the upcoming Int. Foundation Congress & Equipment Expo '09 (IFCEE '09), Orlando, FL, March 15-19, 2009. About 2000 people already pre-registered. There will be field activities.

**3) Technology Transfer – 2009**

- i) Summary of 2009 Sponsored Sessions/Workshops: 18 papers reviewed in which 4 papers presented in lectern session, 3 papers presented in poster session, and 4 papers considered for publication. The number of papers submitted had a declining trend; therefore, the call for papers is encouraged and this year an increase in the number of submitted papers is observed.
- ii) The following are the committee sponsored session/workshops:
  - (1) Session 203 (AFS30): Innovative Bridge Foundation Specifications and Projects, Room: Virginia A, Presiding: Gerald Verbeek, Monday, 8:00–9:45 a.m. The session was well attended (about 50 to 60) people attended and 4 good papers were presented.
  - (2) Spotlight Session 343 (ASF00): Geotechnical Engineering Strategies to Meet Effects of Climate Change on Transportation Infrastructure, Room: Thurgood Marshall South, Presiding: Deborah Goodings, Monday, 3:45–5:30 p.m.

- (3) Poster Session 459 (AFS30): Performance of Retained Fill Structures and Foundation Elements Subjected to Lateral Loads, Room: Salon 2, Presiding: James Brennan, Tuesday 9:30 a.m.–12:00 p.m. Over 100 passed through.
- (4) Panel Discussion Session 565 (AFS30 and AFH15): Geotechnical Data for Design-Build Projects: How Much Should the Owner Provide? Room: Salon 1, Presiding: Tom Cooling, Tuesday, 3:45–5:30 p.m. Tom Cooling was recognized by the committee for his effort on the design build panel discussion session. 75 – 80 attended.
- (5) Subcommittee meeting: Geoseismic Issues of Bridges Subcommittee, AFF50(1), Room: Taft, Wednesday, 8:00–9:45 a.m.

**4) Technical Presentations**

The following presentations were presented during the committee meeting:

- i. Performance-Based Design of Deep Foundations within the LRFD Framework by Lance Roberts
- ii. Foundation Design for the main river pier for KY-60 over Tennessee River by Jamal Nusairat
- iii. Overview of the Upcoming Full Scale Lateral Load Test of Group-Pile-Pier at I-10 Twin Span Bridge in New Orleans, by Murad Abu-Farsakh
- iv. Instrumentation plan for long term health monitoring of the foundation and superstructure of the I-10 Twin Span Bridge in New Orleans, by Alan Marr
- v. Field test of H-shaped Ultra High Performance Concrete Pile under vertical and lateral loads, by Muhannad T. Suleiman

**5) 2010 Annual Meeting**

- a) Sessions:
  - i) Panel discussion session: Service Limit State Design of Deep Foundations for Compatibility with Structural Performance (Lance Roberts)
  - ii) Lecture Session: Performance-Based Design of Deep Foundations under Strength and Service Limit States (Lance Roberts)
  - iii) Open Source Software for Foundation and Soil Testing (Gerald Verbeek (Lead), Brian Liebich)
  - iv) Evaluation and Re-use of existing foundations for economic benefit and accelerated construction (Jamal Nusairat)
  - v) Foundation systems for Earth Retaining and Slope Stabilization (Jamal Nusairat).
- b) Workshops
  - i) None proposed

**6) Research Topics and Proposals**

- a) 2007 Problem Statements submitted for funding:
  - i) Setup and Relaxation Effects on Load Carrying Capacity of Driven Piles Louisiana: Mark Morvant
  - ii) Performance of Laterally Loaded Drilled Shafts in Rock Oregon: Jan Six
  - iii) Performance-Based Design of Foundation Elements and Earth Structures for Extreme Event Loadings California: Brain Liebich
- b) Research need statements will be re-evaluated/re-written via e-mail communications.

**7) 2008 Research Needs Statement Development & Priority**

- a) The new topic priority list is:
  - i) Consideration of QA and QC Results in LRFD for Deep Foundations of Transportation Bridges
  - ii) Asset Management Practices for Structure Foundations
  - iii) Calibration of AASHTO LRFD Specifications for Load Transferred to Bridge Foundations

- iv) Actual Performance of Common Structure Foundation
- v) Reliability-Based Calibration of LRFD Specifications for Design of Micropile Foundations
- vi) Resistance Factor Calibration including Site Variability, and Number of Static Load Tests Needed for Deep Foundations
- b) Last year request for topics was sent to AASHTO T-15 and no response was received on priorities. The committee chair will follow up with T-15 next year in New Orleans meeting.
- c) The seismic design of bridge abutment (from the seismic subcommittee) was endorsed by the committee.
- d) The committee will endorse the topic: Smart bridge concepts to study the health of substructure/foundation. The topic will be presented to the soil and rock instrumentation committee for acceptance.
- e) It is suggested that LRFD topics are not being well received for future funding by NCHRP.
- f) Topic # iii will be re-evaluated to be more generically supported without direct reference as a need for LRFD specifications.
- g) Topic #ii will be endorsed, chair will solicit membership help to produce Research Needs statement.

#### **8) Synthesis topics**

- a) New synthesis topics:
  - i) 2008 Meeting Topics discussed:
    - (1) Integral Bridge Abutments
    - (2) Integral Abutments Movements within MSE Masses
    - (3) Analysis of Laterally Loaded Drilled Shafts in Rock
    - (4) Geotechnical Related Claims: causes, costs, mitigation avoidance
    - (5) Design Phase Load Testing for Foundations
    - (6) Performance of Foundations during Liquefaction Events
  - ii) 2009 Topic Recommendation: Developing production pile driving criteria from test pile (load/PDA/CAPWAP) data.
    - (1) Submitted by Tony Allen & Jan Six. Jan solicited support from committee and explained reasoning behind topic.
    - (2) This synthesis topic was endorsed by the committee. Suggestions/comments are required to be submitted by the end of next week.
    - (3) Gavin Gautreau (Louisiana DOTD) will submit.

#### **9) LRFD update circular and FHWA webinars**

Naser Abu-Hejleh presented a summary about effort of FHWA on LRFD in which the following are the main points:

- 1) Development of web-based training
- 2) DOT's can ask for help of FHWA on the implementation of LRFD
- 3) References/papers for webinars (help is needed to review these papers)

#### **10) Other Business**

- a) A TRB circular will be published soon titled: Geotechnical Load and Resistance Factor Design in State Departments of Transportation
- b) Update from Seismic Committee (Ed Kavazanjian)
- c) Conference announcements:
  - i) Int. Foundation Congress & Equipment Expo '09 (IFCEE '09), Orlando, FL, March 15-19, 2009
  - ii) The 10<sup>th</sup> International Conference on Low-Volume Roads, July 24-27, 2011, Lake Buen Vista, Florida.
  - iii) First International Conference on Nanotechnology in Cement and Concrete, May 5-7, 2010, Irvin, CA.
  - iv) 7<sup>th</sup> International Bridge Engineering Conference, Nov./Dec. 2010 San Antonio, TX.

v) IABMS, July 2010, Philadelphia, PA

**11) Adjourned**

Adjourned at 10:25 p.m.