

Summary of the 03/16/04 Geotechnical Engineering Post-Earthquake Reconnaissance Working Group Meeting

The second meeting of the Geotechnical Engineering Post-Earthquake Reconnaissance Working Group (WG) took place at UC Berkeley on 03/16/2004. The meeting was attended by J. Bray, J.P. Bardet, Bill Lettis, Ellen Rathje, Les Youd, and Dimitris Zekkos (student research assistant). D. Frost made a presentation through a teleconference because he was unable to travel and Nick Sitar was not able to participate. Professor Konagai of the University of Tokyo also made a presentation to the working group to bring in the experience from recent Japanese-led post-earthquake reconnaissance efforts.

The meeting agenda is provided on the next page. The activity was renamed GEER (Geotechnical Earthquake Engineering Reconnaissance) because there is a small geophysical company named GeoRecon, Inc. The composition of the advisory panel was reviewed and approved, and the primary objectives of the activity were discussed.

Professor Leslie Youd discussed in detail USGS Circular 1242. He discussed the role of USGS, EERI, NSF in response to domestic and foreign earthquakes and the opportunities for reconnaissance funding under the new plan presented in the circular. The three-phase response (durations of hours to days for the first phase, a month for the second phase, and few years for the third) as introduced in the circular was discussed. A key coordination point for the NSF GEER activity is involvement in the Phase II meeting identified in the circular. Additionally, coordination with the Investigations Coordinator for the event should occur as soon as possible.

Bill Lettis made a presentation on the role of an engineering geologist during post-earthquake reconnaissance and stressed the importance of training. He also stressed the necessity for better selection criteria of the participants in the earthquake reconnaissance team.

Professor Konagai shared with the working group participants the Japanese experience in organizing reconnaissance activities, particularly as it relates to the reconnaissance of the recent 2003 Bam, Iran Earthquake.

R. Kayen discussed the importance of quantitative information during earthquake reconnaissance. As someone who has relied heavily upon post-earthquake reconnaissance reports by others, he also identified some common shortcomings and suggested ways to minimize them.

David Frost, J.P. Bardet and E. Rathje presented opportunities for direct application of new technologic advances to facilitate post-earthquake reconnaissance. David Frost focused on the usefulness of the development of digital protocols that will help engineers collect the most useful data and also will help archiving the collected information. Such technologies can help expand the "response team" to individuals that are not physically present at the earthquake sites.

J. P. Bardet discussed two different issues related to earthquake reconnaissance. The first relates to cyberinfrastructure and the opportunities that are provided and have not yet been explored. The second topic related to the integration of GIS, GPS Video and Image that could greatly contribute in the rapid damage assessment and the minimization of information loss. Ellen Rathje presented some more recent findings on the application of satellite and airborne photography for use in earthquake reconnaissance.

The advisory group participants agreed that they should soon have a teleconference meeting to set priorities of the working group and the topics that should be discussed in the first Advisory Panel meeting that will probably take place in the late summer. It was also decided that a website should be established and all presentations and material related to the GEER activity should be stored there to be accessible for all interested parties.

NSF-Sponsored Post-Earthquake Geotechnical Reconnaissance Working Group Activity

**03/16/04 Working Group Meeting: 10 am – 6 pm (with lunch: 12:30-1:30 pm)
UC Berkeley Faculty Club “E Room”**

Meeting Agenda

1. Introduction – Jon Bray
 - a. Review of primary objectives of the post-EQ geotechnical reconnaissance activity
 - b. Key action items:
 - Name of activity
 - Better incorporation of activity within USGS Cir. 1242
 - Opportunities and challenges
 - Agenda for first advisory panel/working group meeting
 - Plan for workshop to reach broader audience
 - Response to next major earthquake
2. USGS Circular 1242 “The Plan to Coordinate Post-Earthquake Investigations” – Les Youd
 - a. A summary of the plan
 - b. Incorporation of our activity within “The Plan” and coordination with EERI-LFE, USGS, and other U.S. and international post-EQ reconnaissance organizations (contributions from R. Kayen of U.S.G.S. as well as L. Youd of EERI-LFE)
 - c. Discussion
3. Opportunities and Challenges (presentation of key issues by leaders and discussion by all)
 - a. NSF cyberinfrastructure initiative and NEES collaborative research – J.-P. Bardet
 - b. Earthquake reconnaissance tools: GIS integration GPS/video/picture – J.-P. Bardet
 - c. Use of geologic data and techniques, and the role of the practitioner – Bill Lettis
 - d. Satellite and other aerial imaging data for use in EQ reconnaissance – Ellen Rathje
 - e. Development of quantitative data (lessons learned from past EQs) – R. Kayen
 - f. Rapid dissemination of post-EQ reconnaissance data – R. Kayen
 - g. Systematic collection and archiving of post-EQ data considering the EERI document “Collection and Management of Earthquake Data: Defining Issues for An Action Plan” – David Frost
4. Some Japanese Post-EQ Reconnaissance Activities and Lessons Learned – Prof. Kaz Konagai
5. Agenda for First Working Group and Advisory Panel Meeting
6. Post-Earthquake Reconnaissance Workshop
7. Preliminary Post-EQ Response Plan
 - a. Threshold for Response
 - b. Decision Process and Coordination
 - c. Application for NSF SGER Funds
 - d. Execution
8. Other Issues (equipment required, funding sources, etc.)
9. Schedule
 - a. Next Working Group/Advisory Panel Meeting
 - b. Workshop
 - c. Other future activities