

***GeoEngineering Earthquake Reconnaissance (GEER) Association  
under the sponsorship of the National Science Foundation (NSF)***

**GEER Steering Committee (SC) Teleconference  
01/24/08 from 9:30 am to 11:10 am PST**

**Meeting Summary**

**Meeting Attendees:** Jon Bray, David Frost, Rob Kayen, Ellen Rathje, Nick Sitar, Les Youd, and Ben Mason

**1. Discussion Issues**

(a) **Membership Status:**

Currently, there are 125 individual members of GEER, which includes 8 Steering Committee members, 23 Advisory Panel members, 93 Regular Members, and 1 Recorder. There is now 1 Organizational Partner (i.e., Geoengineer.org).

The size of the GEER Association is reasonable given the number of geoengineering professionals involved in earthquake engineering. However, GEER should seek to increase membership by targeting key individuals and organizations in the U.S. and abroad who are not yet members of GEER.

**Bray will take the lead on this targeted membership drive.**

(b) **Review of Recent Post-Earthquake Reconnaissance Efforts:**

GEER efforts during recent earthquakes (i.e., the Niigata Chuetsu-Oki, Japan EQ of July 16, 2007, and the Pisco, Peru EQ of August 15, 2007) were reassessed by the SC members. Excellent web-based reports were prepared by GEER teams after performing comprehensive reconnaissance of the effects of these earthquakes. Reports were posted at the GEER web site: [http://gees.usc.edu/GEER/recent\\_geotechnical\\_engineering.htm](http://gees.usc.edu/GEER/recent_geotechnical_engineering.htm)

Although the reconnaissance efforts were effective, several issues were raised by SC members including: (i) some team members were not fully prepared with GPS devices, etc., (ii) expectations of the type and quality of the work to be performed should be made clear up front, (iii) coordination with other teams such as EERI LFE need to be better defined because other teams have different goals and expectations of what to accomplish, and (iv) GEER needs to remain independent to be able to accomplish its important documentation work of the geotechnical effects of earthquakes and to get proper credit for its accomplishments. For example, the web report for the Niigata Chuetsu-Oki, Japan Earthquake was largely prepared by the GEER team, and in the field, members of other teams often did not see the value of performing a comprehensive documentation of the widespread and critical effects of this earthquake. Important innovations such as the use of Google Earth to portray the effects of the earthquake were developed by GEER team members. GEER continues to lead in post-earthquake reconnaissance innovations.

SC members developed these recommendations for improving future reconnaissance efforts and the visibility of the relatively new GEER Association:

- 1) Develop a document that can be posted at the GEER web site that describes the minimum equipment required by team members in the field (e.g., GPS device and digital camera) and provides guidance on how to use the key features of the required equipment.

**Kayen to take lead on preparing this document. Some funding of this effort can be supported by GEER.**

- 2) Plan for a workshop to train potential GEER team members. In the meantime, GEER should take advantage of the upcoming geotechnical earthquake engineering and soil dynamics conference in Sacramento in May 2008, as well as other opportunities for reaching potential members. However, a dedicated workshop that trains GEER members is required.

**Frost to take lead on coordinating a demonstration session at the upcoming Sacramento 2008 conference. Kayen can highlight the use of LIDAR and Mason can set up a poster and computer presentation that highlight GEER in general.**

- 3) GEER needs to remain independent so that it can accomplish its mission effectively and receive the recognition it deserves.

**Bray in consultation with other SC members should develop a strategic plan for GEER.**

- 4) GEER should establish a GEER report series for documenting post-earthquake reconnaissance efforts. GEER should identify its products and disseminate wide use of them. GEER report information needs to be eventually published in archival refereed journals so that the valuable information collected through these efforts are disseminated widely and maintained for posterity. The International Journal of Geoengineering Case Histories was suggested as one possibility. This journal has a Google Earth format and was useful in publishing the GEER reconnaissance of the Island of Hawaii Earthquakes of October 15, 2006 by GEER member, Dr. Medley ([http://casehistories.geoengineer.org/volume/volume1/issue2/IJGCH\\_1\\_2\\_3.html](http://casehistories.geoengineer.org/volume/volume1/issue2/IJGCH_1_2_3.html)). There was discussion about relying solely on one journal, so this issue will be discussed further by the SC members.

(c) GEER Earthquake Response Plan:

SC members discussed how best to respond to these earthquake events: (i) small event, (ii) large event outside of U.S., (iii) moderate event within U.S., and (iv) large event within U.S. It was agreed that the approach that GEER is currently using is prudent.

Events that do not provide opportunities for advancing the profession are not surveyed. GEER has been providing funding in the amount of 10K to 15K to support small GEER teams that perform reconnaissance of relatively minor earthquake events that contain some important information for the geoengineering profession. This small level of support should be programmed in future annual budgets, as they are likely to continue to occur on an annual basis and this level of effort is worthwhile to document the key lessons from these events.

However, large earthquake events that occur overseas, such as the 1995 Kobe, 1999 Kocaeli, and 1999 Chi-Chi earthquakes, and moderate and large events that occur within the U.S.,

such as the 1989 Loma Prieta, 1994 Northridge, 2001 Nisqually, and 2002 Denali earthquakes, should have a mechanism to secure additional funding from the NSF or NEHRP. It is not useful to the geoengineering profession overall to program funds for these larger efforts in an annual budget as they are relatively rare events. It is important to balance the profession's need for GEER with competing needs for NSF-sponsored individual investigator research.

**Bray to take lead on developing a response plan that describes this plan of action.**

- (d) Future Funding of the GEER Association:

The GEER activity was funded by the NSF for 5 years initially. Now that GEER has become a long-term association that serves geoengineering researchers and practitioners additional support is required for the next 5 years to build upon the current effort and to establish long-term non-NSF support, if possible.

There was much excitement about broadening the mission of GEER to include multi-hazards. GEER members have already used GEER-developed techniques and equipment to perform valuable reconnaissance of other extreme events, such as the collapse of the World Trade Center Twin Towers and the damage caused by Hurricane Katrina. It is a natural extension of GEER's current capabilities and fills a real need in the Nation. However, GEER would need to broaden its membership if it is to cover other hazards effectively.

Overall, there was a sense that we should move towards a multi-hazard expansion of GEER and consider renaming the GEER Association as the Geoengineering Extreme Events Reconnaissance (GEER) Association to reflect this broadening of our focus to multi-hazards. Additional discussion is required before such an action is approved by the GEER SC members.

## 2. Schedule

- (a) The next Steering Committee meeting will be scheduled in late February or early March.
- (b) A second GEER SC, Advisory Panel (AP), and additional participants workshop is required that builds upon the first workshop that was held at Berkeley in October 2004. Tentatively, October 2008 appears to be a good time to hold this second workshop. This second workshop should include some GEER Regular Members in addition to GEER SC and AP members, as well as continue with the previous outreach to other like-minded organizations.

*The meeting agenda follows this page.*

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**Webex Meeting Number: 577 846 706 Password: geersc**

**Call-in number: 866-469-3239**

**Meeting Agenda**

**1. Introduction**

(a) Meeting Objectives

(b) Additional Issues to Discuss

**2. Action Items of the GEER Association**

(a) Membership status

(b) Brief review of recent EQ reconnaissance efforts

- i. Niigata Chuetsu-Oki, Japan EQ of July 16, 2007
- ii. Pisco, Peru EQ of August 15, 2007

(c) GEER earthquake response plan

- i. Small event
- ii. Large event outside of U.S.
- iii. Moderate event within U.S.
- iv. Large event within U.S.

(d) Funding for next 5 years

- i. NSF support and other support
- ii. Multi-hazard expansion of GEER (e.g., Geoengineering Extreme Events Reconnaissance)

(e) Next GEER Advisory Panel, Etc., & Steering Committee meeting

(f) Initiatives to undertake, i.e., establish and charge subcommittees to complete required actions

**3. Other Issues**

**4. Schedule**

- a. Next Steering Committee Meeting
- b. Future Activities