

**National Earthquake Hazards Reduction Program  
Advisory Committee on Earthquake Hazards Reduction  
National Institute of Standards and Technology  
June 1, 2012**

**Conference Call Meeting Summary**

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**Advisory Committee Members:**

Chris Poland, Chair  
Norman Abrahamson  
James Beavers\*  
Richard Eisner  
John Hooper  
Michael Lindell\*  
Jack Moehle  
Thomas O'Rourke  
Susan Tubbesing  
Anne vonWeller  
Yumei Wang  
Brent Woodworth  
Ralph Archuleta,\* Ex-officio member of ACEHR as Chair of USGS SESAC

\*not in attendance

**NEHRP ICC Member-Agency Representatives and NIST Support:**

Shyam Sunder	NIST, EL Director, ACEHR Designated Federal Official
William Grosshandler	NIST, EL Deputy Director
Jack Hayes	NIST, NEHRP Director
Steven McCabe	NIST, NEHRP Deputy Director
Joy Pauschke	NSF
John Filson	USGS
Tina Faecke	NIST, NEHRP Secretariat
Michelle Harman	NIST, NEHRP Secretariat
Brian Garrett	BRI Consulting Group, NEHRP Secretariat support

**Abbreviations Used Above**

ACEHR—Advisory Committee on Earthquake Hazards Reduction	NIST—National Institute of Standards and Technology
EL—Engineering Laboratory	NSF—National Science Foundation
ICC—Interagency Coordinating Committee	SESAC—Scientific Earthquake Studies Advisory Committee
NEHRP—National Earthquake Hazards Reduction Program	USGS—U.S. Geological Survey

## Summary of Discussions

### I. Call to Order

Chris Poland, Chair of the Advisory Committee on Earthquake Hazards Reduction (ACEHR), welcomed attendees to the conference-call meeting and asked Tina Faecke to conduct the roll call of committee members. The Chair asked whether there were any members of the public in attendance who would like an opportunity to provide input to the committee; none were in attendance. The purpose of the meeting was to review the edits made by various members in the committee's 2012 report on NEHRP effectiveness, and to ratify or modify these changes in order to finalize the report. Using WebEx technology, attendees were able to view a shared, online copy of the report on which the proposed changes had been marked, and Faecke was able to modify the edits in real time as directed by the committee. The committee reviewed the report section by section, with the authors of each section describing the changes they had inserted in response to the discussions at ACEHR's last meeting on April 27, 2012.

### II. Review of the Sections Under "Program Effectiveness and Needs"

#### ***Management, Coordination, and Implementation of NEHRP***

Susan Tubbesing reported that some changes had been made to clarify the organization and structure of this section, but that these changes did not affect the substance of the text. The section still contained the same two recommendations on program funding and lifelines. Tubbesing noted that the version of recommendation 2 listed in the "Executive Summary" contained a sentence that was missing from the version included in the management section. Faecke copied this sentence into the section.

#### ***Federal Emergency Management Agency***

Brent Woodworth explained that in this section, some edits had been made to recommendation 2 and a table had been added that linked the recommendations to the NRC tasks emphasized by ACEHR. The committee discussed the scope of recommendation 2 and determined that it should pertain to public and private schools as well as other essential facilities (e.g., police and fire stations, emergency operations centers, hospitals). They modified the text of this recommendation to call on the Federal Emergency Management Agency (FEMA) to support the seismic assessment and priority mitigation of such facilities.

#### ***National Institute of Standards and Technology***

John Hooper said that he had inserted into this section, where applicable, references to the five NRC tasks emphasized by ACEHR. Rather than using a tabular format for these links, as was done in the FEMA section, he wrote the links into the text.

#### ***National Science Foundation***

Jack Moehle said that in response to comments received at the last meeting, he had made this section's recommendations shorter and more consistent with the textual discussions that follow them. There were no substantive changes to the first recommendation, although some text had been moved from the recommendation itself down into the discussion that followed. Similarly, for recommendation 2, Moehle had moved some text from the recommendation down into the discussion, and had also added several references to the value of networked facilities and shared

cyberinfrastructure into the recommendation and related discussion. In addition to shortening recommendation 3, Moehle had modified some of the discussion following it by incorporating some punchy and succinct language suggested by Yumei Wang. The committee made only a few minor changes to the wording of recommendations 2 and 3.

### ***U.S. Geological Survey***

Author Norman Abrahamson had made two significant changes to the section on the U.S. Geological Survey (USGS). The first was to combine the formerly separate recommendations related to (a) the change in seismic hazards following large earthquakes, and (b) the completion of the Advanced National Seismic System (ANSS). In the new, combined recommendation, the completion of ANSS was said to be required to provide the data needed for analyzing the changes in seismic hazards that follow significant earthquakes.

The second change consisted of moving two paragraphs that concerned the nuclear power industry's newfound need for seismic monitoring data and the potential opportunity that this need presents for obtaining funding from the industry for ANSS. Abrahamson moved this material from the USGS section into the section on earth science in the appendix.

At the suggestion of the Chair, Abrahamson also inserted a reference to task 18 from the National Research Council (NRC) report<sup>1</sup> into the text following recommendation 1.

## **III. Review of the Appendix on Trends and Developments in Science and Engineering**

The Chair led a section-by-section review of the appendix. In the following sections, no changes had been made since the last meeting and the committee made no changes during this meeting: "Social Science," "Geotechnical Earthquake Engineering," "Building Codes and Quality Assurance," and "Lifeline Earthquake Engineering." The remaining sections are identified below along with the revisions discussed and decided upon.

### ***Earth Science***

Ralph Archuleta had proposed two alternative versions of a paragraph about the performance of Japan's earthquake early warning (EEW) system during the March 2011 Tohoku earthquake and tsunami. The committee decided to include the shorter version in the report, agreeing that it was more complete and understandable. A member observed that the experience in Japan has shown that to be effective, EEW systems must not only monitor and communicate seismic information, they must also educate the populace about how to access and use that information.

### ***Structural Earthquake Engineering***

Members noted that the author of this section, James Beavers, had inserted each of the updates, clarifications, and additions that had been suggested at the last ACEHR meeting. The Chair expressed concern that one of these changes, concerning the improvement of procedures used to assess the post-earthquake safety of buildings, might be overlooked at the end of the subsection on needs. In response, the committee added another reference to this topic earlier in the section.

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<sup>1</sup> National Research Council, "National Earthquake Resilience: Research, Implementation, and Outreach" (Washington, DC: The National Academies Press, 2011).

### ***Disaster Preparedness, Response, and Recovery***

The authors reported that some relatively minor edits had been made to this section following the April 27 ACEHR meeting, and that these changes were appropriate.

#### **IV. Review of the “Introduction” and “Executive Summary”**

The Chair explained that he had made only one minor change to the “Introduction,” and no additional changes were suggested by the committee, so the discussion turned to the “Executive Summary.” The Chair noted that the list of recommendations contained in this section would be updated to reflect the revisions made during this meeting.

The committee discussed the final, “Call to Action” portion of the summary in depth. Wang had provided an alternative version of this subsection for consideration by the author (Chris Poland), who, in turn, presented this version alongside the original for consideration by the committee. Wang stated that her alternative language was intended to make the “Call to Action” more punchy, and that she had tried to skirt around the budgetary references that a participant at the last meeting had suggested might be inaccurate.

Some members felt that these budgetary references, which highlighted the apparent incongruity of decreased funding for NEHRP within an expanded Federal budget request for fiscal year 2013, articulated a powerful observation that should be retained. Another member suggested that the emphasis be shifted from this observation to the high return on investment that has been and can be achieved through increased support for NEHRP. It was also pointed out that in a constrained Federal fiscal climate, an increase in the overall Federal budget request may reflect funding increases for only the highest priorities of the executive branch. In such an environment, retaining an existing level of funding can be considered a positive development. Other members countered that NEHRP should be considered for inclusion among the Government’s highest priorities for discretionary funding increases, and that it is important and appropriate for ACEHR to ask for such consideration.

The committee ultimately decided to combine language from both versions of the “Call to Action.” They also made further edits to highlight the national-security implications of earthquake risk reduction, to ensure the accuracy of the budgetary statements, to strengthen and clarify the statements about the actions called for, and to define resilience.

#### **V. Adjournment**

Upon completing their review the committee voted to submit the report, as modified during this session, to the NEHRP Interagency Coordinating Committee. The Chair stated that he would prepare a transmittal letter to accompany the report, and ensure that the report is properly finalized and delivered.

Jack Hayes noted that three ACEHR members—Thomas O’Rourke, Anne vonWeller, and Yumei Wang—were completing their terms as ACEHR members. On behalf of the NEHRP agencies, he thanked them for their service to the committee and wished them well in their future endeavors. The retiring members expressed their appreciation for being given the opportunity to serve on ACEHR. The Chair then adjourned the meeting.