FEMA-NIBS BSSC PROVISIONS UPDATE COMMITTEE
ISSUE TEAM 7
MEETING #1

100 Pine St., Suite 1600, San Francisco, CA

September 23, 2016

Summary Minutes

Participants

Stephen Harris, SGH (Chair)
C.B. Crouse, AECOM (via teleconference)
Gyimah Kasali, Rutherford + Chekene
Ian McFarlane, Magnusson Klemencic Associates
Robert Pekelnicky, Degenkolb Engineers
Jonathan Stewart, UCLA (via teleconference)
Bruce Kutter, UC Davis (via teleconference)
Armin Masroor, Arup

1. CALL TO ORDER:

The meeting started at 10:00 a.m. with member introductions and a review of the Issue Group Topics that have been finalized in the last PUC meeting in July, 2016.

2. APPROVAL OF MINUTES

Not Applicable.

3. ISSUE TEAM TITLE

Because the items under discussion would include topics beyond soil-structure interaction, it was agreed that we would use the title “Soil-Foundation Interface.”

4. GENERAL DISCUSSION

Issue Team members discussed topic germane to our charges. Some highlights of the discussions are:

   We need to consider the applicability of SSI kinematic reductions for linear analyses, as well as nonlinear.
To address foundation rocking properly, we need to be able to properly understand geotechnical ultimate capacities and to define acceptable settlement values for various conditions. Separate linear and nonlinear procedures are required to address rocking.

We need to define various failure modes for foundation elements and to categorize them similarly to the TBI provisions as critical, ordinary, and non-critical.

The combination of various types of SSI damping at the soil-foundation interface need to be considered (hysteretic vs. radiation). Linear and nonlinear damping rations can’t be combined.

Sometimes kinematic reduction at short periods can reduce higher mode effects in tall buildings. These are cases where consideration of SSI should be required – not just optional. It’s not always conservative to ignore them.

Our group should provide guidance for soil spring stiffness to be used in analyses.

Seismic earth pressures on retaining walls is an outcome of soil structure interaction. The commonly used approach (Mononobe-Okabe) is overly simplistic and inappropriate in many cases.

We need to address the appropriate loading for foundation design, including critical behaviors, ductility, and design loads.

5. SUBGROUPS

It was decided that members will split into smaller groups and start addressing various specific topics. Each subgroup will include a key team member and supporting members.

   Peckelnicky, Crouse.
2. Rocking and Foundation Modeling.  
   Masroor, Peckelnicky, Kutter
3. Design forces for Foundations  
   McFarlane, Harris
4. Geotechnical Requirements for Strength/Stiffness  
   Kasali, Kutter, McFarlane
5. Lateral Earth Pressure  
   Stewart, Crouse, Kasali

6. ADJOURNMENT

Meeting was adjourned around 1:00 P.M. Follow-up conference was scheduled for 10:00 A.M., 14 November, prior to the 30 November main PUC meeting.