Meeting 1 of the BSSC PUC Issue Team on Shear Walls
KPFF Consulting Engineers
1601 Fifth Avenue, Suite 1600, Seattle, WA 98101

August 29-30, 2016

Summary

A final agenda for the meeting is attached.

Attendance lists for Day 1 (August 29th, 1.30p – 5.30p) and Day 2 (August 30th, 8.00a – 12.00 noon) are attached.

Purpose of IT: The shear wall IT will consider the effects of external loads (gravity as well as lateral) on shear walls of concrete, steel, masonry, and wood. It will next consider the possible failure modes resulting from those load effects or internal forces. This will lead to a determination of the failure modes that are critical in design, which in turn should lead to possible areas of improvement in current design practice. Two of those areas are anticipated to be the following:

1. Coupled shear wall systems are recognized as distinct from isolated shear wall systems in Canadian and New Zealand codes; they are also accorded higher response modification factors in view of their superior seismic performance. The IT will examine whether ASCE 7 should go in the same direction. (suggested by PUC: different R factors for coupled and isolated walls need definition of coupled shear wall; ACI 318 will develop the definition; new line items will be added in in Table 12.2-1. Ron Hamburger suggested P 695 study)

2. Tall buildings in the 400-ft height range are increasingly being built in highly seismic areas, with seismic forces being resisted entirely by cores consisting of reinforced concrete shear walls. The shear design of these shear walls is absolutely crucial to the safety of these structures. However, we have at best an imperfect understanding of the maximum shear that can develop and how it is transferred at the base. It will be very beneficial for the IT to look into this design aspect. (suggested by PUC: cooperate with multi-period spectra team)

Expected Work Product(s): The IT will develop Part 1 proposals and accompanying Part 2 commentary dealing with any topic on which the IT is able to progress to that point. All other findings of the IT and work leading to those findings will be recorded in a Part 3 Resource Paper.

Time Frame: PUC ballots will start early next year with the first ballot to provide adoption of ASCE 7-16 after it is made available. The last PUC ballot will occur early to mid-2019 followed by the last MO (member organization) ballot.

On Day 1, the following presentations were made:
Joe Maffei on R-factors (ahead of Agenda Item 4)

Dick Bennett on masonry shear walls (Agenda Item 4)

Kelly Cobeen on wood shear walls (Agenda Item 6)

Gino Kurama on precast shear walls (Agenda Item 7)

Dawn Lehman on cast-in-place concrete shear walls (Agenda Item 8)

Jeff Berman on steel plate shear walls (Agenda Item 10)

There was no presentation by John Wallace (Agenda Item 9)

Any or all the presentations above are available upon request to any member or corresponding member of IT4.

The discussion on Day 2 has been summarized by Andy Taylor in a document titled “IT4 – Discussion of Objectives.” The document is attached.