



SEABC Technical Committee

Fire Rating of Seismic Bracing

Draft Proposal

November 4, 2008 (Revision 1)

The APEGBC Building Code Committee asked SEABC to review the question of whether or not seismic bracing is required to be fireproofed. The following is a suggested standard approach.

- 1. The following requirements apply only in the case where columns are required to be fireproofed.**
- 2. Bracing that is a part of the gravity load carrying system must be fireproofed.**
- 3. Sufficient fireproofed bracing must be provided to resist the factored effects of sway, including the notional loading in accordance with CSA-S16-01 Clause 8.7.2, plus the factored effects of wind loading using Load Combination Case 2 from Table 4.1.3.2 of NBCC.**

or

- 3. Sufficient fireproofed bracing must be provided to resist the factored effects of sway, including the notional loading in accordance with CSA-S16-01 Clause 8.7.2, plus the factored effects of a 1/10 wind loading using Load Combination Case 4 from Table 4.1.3.2 of NBCC.**
- 4. Seismic bracing added to a building as part of a seismic upgrade need not be fireproofed provided all elements that contributed to the building's original lateral stability remain intact.**

Discussion

Sufficient bracing must always be provided for stability of the structure under gravity loading and this bracing must function under fire conditions. The probability of a fire at the same time as the design earthquake is extremely low. Fires are often triggered as a result of an earthquake but normally occur after the event. The probability of a fire at the same time as the design wind is also very low but the probability of a lower level wind at the same time as a fire may be significant. There is no clear guidance that we have found to indicate how to handle the fire plus wind case. We are suggesting, until better information is available, that we take what we believe is a reasonable approach to this problem.