

**CRSC Proposal for IRC
Draft November 13, 2015**

R602.10.6.5: Add the following new fourth paragraph.

Detached one- or two-family dwellings in Seismic Design Categories D₀, D₁ and D₂ with exterior stone or masonry veneer in accordance with Section R703.8 installed in the second story in accordance with Item 1 or 2 below shall be permitted to be braced in accordance with Section R602.10.3 provided all of the requirements of Item 3 are met:

1. The total area of veneer on second-story exterior walls does not exceed 25 percent of the occupied second floor area, or
2. The veneer on the second story is limited to one face (one elevation) of the building.
3. Requirements:
 - a. The dwelling does not exceed two stories above grade plane,
 - b. Height of veneer on gable-end walls does not at any location extend more than eight feet above the typical top of bearing wall stud,
 - c. Veneer is installed in accordance with Section R703.8,
 - d. Veneer does not exceed 5 inches in thickness
 - e. Wall bracing methods are limited to WSP or CS-WSP, and
 - f. Wall bracing is in accordance with Section R602.10.3 except that the minimum total length of braced wall panel specified by Table R602.10.3 is multiplied by 1.15.

Reason: Builders in Tennessee are commonly installing a limited area of veneer on the second story of two-story residences, particularly on the street face. 2012 IRC Section R602.10.6.5 requires the use of BV-WSP bracing, with a complete set of tie-downs over all stories when any veneer extends above the first story. This requirement is cost-prohibitive and out of proportion to the addition of a limited area of second story veneer.

Based on a limited study of example houses, it has been determined that allowing an area of second story veneer not exceeding 25 percent of the second floor area will increase the seismic story shears up to approximately 12 percent. Calculations for two examples houses are attached. By requiring that the wall bracing length be increased by 15 percent, the increase in seismic shear due to second story veneer will be accommodated and wall bracing unit shears will reduce or stay the same as currently occurring with first-story veneer. As a result, both shear and overturning demands will remain similar to those currently permitted under IRC provisions. It is proposed to limit permitted bracing methods to WSP and CS-WSP because these bracing methods most reasonably accommodate the increase in bracing wall length, and these bracing methods have increased toughness relative to other methods.