GEW68-14
605.1.1.1

Proponent: Eric DeVito, BBR&S representing Cardinal Glass Industries, representing Brickfield, Burchette, Ritts & Stone (eric.devito@bbrslaw.com)

Delete without substitution:

~~**605.1.1.1 Permanent shading devices for fenestration.** Vertical fenestration within 45 degrees (785 rad) of the nearest west, south, and east cardinal ordinate shall be shaded by permanent horizontal exterior projections with a projection factor greater than or equal to 0.25. Where different windows or glass doors have different projection factor values, each shall be evaluated separately, or an area-weighted projection factor value shall be calculated and used for all windows and glass doors. Horizontal projections shall extend laterally beyond the edge of the glazing not less than one-half of the height of the glazing, except at building corners.~~

~~**Exception:** Shading devices are not required for the following buildings and fenestrations:~~

1. ~~Buildings located in hurricane-prone regions in accordance with Section 1609.2 of the *International Building Code* or on any other building with a mean roof height exceeding the height limits specified in Table 1504.8 of the *International Building Code* based on the exposure category and basic wind speed at the building site.~~
2. ~~Where fenestration is located in a building wall that is within 18 inches (457 mm) of the lot line.~~
3. ~~Where equivalent shading of the fenestration is provided by buildings, structures, geological formations, or permanent exterior projections that are not horizontal, as determined by sun angle studies at the peak solar altitude on the spring equinox, and three hours before and after the peak solar altitude on the spring equinox.~~
4. ~~Where fenestration contains dynamic glazing that has a lower labeled solar heat gain coefficient (SHGC) equal to or less than 0.12, and the ratio of the higher and lower labeled visible transmittance (VT) is greater than or equal to 5. Dynamic glazing shall be automatically controlled to modulate, in multiple steps, the amount of solar gain and light transmitted into the space in response to daylight levels or solar intensity. Functional testing of controls shall be conducted in accordance with Section C408.3.1 of the *International Energy Conservation Code*.~~

Reason: As it is currently written, the IgCC prescriptive shading option unnecessarily complicates what otherwise would be a very straightforward and simple-to-apply prescriptive compliance option based on a reasonable level of improvement over the IECC. The shading language alone is roughly double the length of the entire remainder of the IgCC's prescriptive building envelope systems compliance path (Section 605). Moreover, while there is no shading requirement in the IECC at all, this section of the IgCC singles out shading as the single new "energy efficiency" requirement for the thermal envelope under the prescriptive path. Deleting Section 605.1.1.1 will make the code more flexible and more usable without decreasing efficiency or sustainability. Although shading devices can be effective at reducing direct solar radiation in some circumstances, they are not appropriate or cost-effective for every building and every circumstance. The exceptions in the current code simply are not possible in many projects. Requiring permanent shading devices in nearly every building is too design- restrictive, and it makes the prescriptive compliance option very difficult or impossible to use. With the availability of low SHGC glazing, the need for permanent shading does not exist in many buildings and orientations.

The elimination of this prescriptive requirement will not weaken the code. Permanent shading devices are already incorporated as options into the prescriptive and performance options of the IECC, which recognizes that permanent shading devices are but one option to control SHGC. (The predominant method under the IECC is low SHGC glazing.) In fact, eliminating the prescriptive requirement from IgCC Section 605.1.1.1 eliminates the potential for "double-counting" permanent shading devices in the calculation of energy conservation measures (since the IECC permits higher SHGCs where permanent shading devices meet certain projection factors). Shading devices would remain one of several options for achieving a 10% improvement over the IECC per Section 605.1.1, instead of a near-mandatory requirement in itself.

Cost Impact: Will not increase the cost of construction. Deleting this section likely will decrease the cost of construction.