R301.6 Roof load. Roof shall be designed for the live load indicated in Table R301.6 or the snow load indicated in Table R301.2(1), whichever is greater.

Q: When calculating the roof snow load for an engineered design, does the “GROUND SNOW LOAD” established by the local jurisdiction and provided in Table R301.2(1) require consideration of additional snow loads, such as drifting and sliding snow?

A: Yes. When engineering design is required for a building or structure the design roof snow load must be determined in accordance with accepted engineered practice. This will require consideration of, but not be limited to, the importance factor, roof exposure, roof thermal conditions, roof slope, partial loading, unbalanced loads, snow drifts on lower roofs and sliding snow as applicable.

The IRC has considered all applicable snow load factors within the scope of the prescriptive provisions. For example, the prescriptive provisions of the IRC are for a simple rectangular building with a gable or hip roof. There are no prescriptive provisions for lower roofs; therefore, drifting and sliding on lower roofs is not applicable. However, in the case of the wood frame rafter tables, unbalanced roof snow load has been considered and controls the design.

The prescriptive provisions of the IRC do not require a calculation of the roof snow load. All prescriptive provisions in the IRC use the ground snow load for ease of reference, but that does not imply that the design roof snow load is equal to the ground snow load.