443 Lafayette Road N.
St. Paul, Minnesota 55155
www.dli.mn.gov

MINNESOTA DEPARTMENT OF
LABOR & INDUSTRY

(651) 284-5005
1-800-DIAL-DLI
TTY: (651) 297-4198

ADVISORY COMMITTEE COMMENT FORM
FOR PROPOSED CODE CHANGES

(This form must be submitted electronically)

IEBC #7

Author/requestor: David Macdonald

Email address: davem@mattsonmacdonald.com

Telephone number: 612-827-7825

Firm/Association affiliation, if any: Minnesota Structural Engineers Association (MnSEA)

Proposed Code Change - Language

1311.807.4 Existing structural elements carrying gravity loads. Alterations shall not reduce the capacity of existing gravity load-carrying structural elements unless it is demonstrated that the elements have the capacity to carry the applicable design gravity loads required by the International Building Code. Existing structural elements supporting any additional gravity loads as a result of the alterations, including the effects of snow drift shall comply with the International Building Code.

Exceptions:

1. Structural elements whose ~~stress~~ demand-capacity ratio is not increased by more than 5 percent. Additional loads due to snow retention as a result of a change in roof insulation shall be included in the evaluation.
2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light frame construction methods of the International Building Code or the provisions of the International Residential Code.

Proposed Code Change – Need and Reason

The proposed code change refers to an increase in demand/capacity ratio instead of the stress in the element. This language conforms to the industry standard for the practice of structural engineering in which calculations are prepared using reliability based design methods. The change will also recognize that 5 percent increase in the member force or stress may not be acceptable if the member demand capacity ratio is already considerably above 1.00. The designer upon recognizing that condition would make a professional judgment if the exception could still reasonably be applied. Re-roofing that involves new roof insulation with a higher R-value may increase snow retention and cause additional loading because the snow will no longer melt at the same rate; this additional loading needs to be included in the structural evaluation.

Proposed Code Change – Cost/Benefit Analysis

This proposed code change will result in neither a cost increase or decrease.

Other Factors to Consider Related to Proposed Code Change

1. Is this proposed code change meant to:

   [x] change language contained in a published code book? If so, list section(s).
   IEBC Chapter 8, section 807 – Structural, paragraph 807.4

   [ ] change language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   [ ] delete language contained in a published code book? If so, list section(s).

   [ ] delete language contained in an existing amendment in Minnesota Rule? If so, list Rule part(s).

   [ ] neither; this language will be new language, not found in the code book or in Minnesota Rule.

2. Is this proposed code change required by a Minnesota Statute or new legislation? If so, please provide the citation to the Statute or legislation.
   No

3. Will this proposed code change impact other sections of a published code book or of an amendment in Minnesota Rule? If so, please list the affected sections or rule parts.
   No

4. Will this proposed code change impact other parts of the Minnesota State Building Code? If so, please list the affected parts of the Minnesota State Building Code.
   No

5. Who are the parties affected or segments of industry affected by this proposed code change?
   Building design engineers.

6. Can you think of other means or methods to achieve the purpose of the proposed code change? If so, please explain what they are and why your proposed change is the preferred method or means to achieve the desired result.
   No

7. Are you aware of any federal requirement or regulation related to this proposed code change? If so, please list the regulation or requirement.
   No