2013 Building Energy Efficiency Standards Staff Workshop

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Nonresidential Mandatory Minimum Insulation Levels

- **Prescriptive Standards** set the minimum level of code compliance, but a building can be built with less efficient attributes if additional energy savings are proven through the performance compliance approach.
- **Mandatory Minimum Standards** set a level of code compliance that must me met in all circumstances and cannot be "traded-off" through the performance compliance approach.

Rationale for Mandatory Minimums

- Mandatory minimums are considered an element of fundamental, prudent building practices
- Simplifies code enforcement, since a building official knows every building must meet at least the mandatory minimums

Rationale for Mandatory Minimums

- Two potential ways to set mandatory minimums:
  - Use lowest standard for the building attribute in any of the climate zones (approach with insulation)
  - Use recent historical standard (approach with cool roofs)
- **Cost Effectiveness:** A minimum mandatory standard that is equal to or less than the prescriptive standard for each climate zone will be cost effective across all climate zones

Mandatory Minimum Insulation Levels

- **Roof – Metal Building:** U-Factor = 0.065
  - R-19 batts draped over purlins and compressed w/ thermal blocks of R-5 extending 1" beyond the width of the purlin on each side
- **Roof – Wood Framed and Other:** U-Factor = 0.075
  - R-19 batts installed between 2x4 framing 16" o.c.

Mandatory Minimum Insulation Levels

- **Wall – Metal Building:** U-Factor = 0.113
  - R-13 batts laid over metal girts and compressed under siding
- **Wall – Metal-Framed:** U-Factor = 0.098
  - R-8 continuous insulation

Mandatory Minimum Insulation Levels

- **Wall – Mass Light:** U-Factor = 0.44
  - 6” Light weight CMU partly grouted with insulated cells
- **Wall – Mass Heavy:** N/R
- **Wall–Wood Framed and Other:** U-Factor = 0.110
  - 2x4 framing 16” o.c. with R-11 batts

Mandatory Minimum Insulation Levels

- **Floor/Soffit – Mass:** N/R
- **Floor/Soffit – Wood or Other:** U-Factor = 0.071
  - 2x6 framing 16” o.c. with R-11 batts

Mandatory Minimum Insulation Levels

- Questions?
- Comments?

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