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## Comments to DOE Proposed Rule on Energy Conservation Standards for Manufactured Homes (06-17-2016)

- 1) Table 460.101-1 & 2. The State of California is not included in the tables. It appears the entire State of California is located in Climate Zone III.
- 2) 460.102 Building thermal envelope requirements. Climate Zones I and II of the 2015 IECC closely matches Climate Zone I of the proposed rule. Climate Zone I and II of the 2015 IECC allows a window U-factor of 0.40, which is significantly higher than the window U-factor of 0.35 in the proposed rule for the same area. I recommend raising the window U-factor in the proposed rule to 0.40 for climate zone 1.
- 3) 460.102 Building thermal envelope requirements. The only difference between Climate Zone I and II of the proposed rule is the SHGC. I recommend combining these climate zones into a single zone, and use a SHGC of 0.33.
- 4) Table 460.102-1. Note 3 states "Ceiling Insulation must have either a uniform thickness or uniform density." Uniform thickness will not generally be possible. Therefore a uniform density will be required in the prescriptive method. This seems to not allow compression of insulation in the truss heel area. If will be very difficult to build a roof with the insulation levels required by the proposed rule without some compression.
- 5) Table 460.102-1. Note 7 requires a maximum glazing area of 12% of the floor area, when using the prescriptive method. There is no such glazing area restriction in the 2015 IECC. I recommend eliminating this requirement.
- 6) Table 460.103 Installation of Insulation. Under floors, the proposed rule requires floor insulation to be installed in contact with the underside of the floor decking. This requirement has been debunked by building scientists, and has been removed from the 2015 IECC. It serves no purpose since the rim joist is required to be insulated. It is extremely difficult to do in a factory environment. I recommend this section be removed.
- 7) 460.201 Duct system The proposed rules states "Each manufactured home must be equipped with a duct system." This seems to imply that ductless systems, such as minisplit heat pumps are not allowed. I recommend revising the section to state "when a duct system is installed."
- 8) 460.201 Duct system Section (b) states "Building framing cavities must not be used as ducts or plenums". Does this section apply to return air plenums? I recommend revising this section to state "....supply ducts or plenums...."
- 9) The use of 2x4 exterior walls will be extremely difficult to make work under the proposed rule for thermal Zone III and IV. This will encompass approximately 75% of the country. This will impose a significant financial burden on the industry.

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10) The proposed rule does not address how these standards will be enforced. Does DOE have an enforcement plan? How are plan review and inspections to be performed? If would be a burden on the industry to have to deal with an additional Federal Agency. There needs to be regulatory clarity before this rule can be final.