

May 6, 2019

To: energystarhomes@energystar.gov

**From: Systems Building Research Alliance**

RE: ENERGY STAR Manufactured Homes Program, Version 2

Comments:

- Exhibit 1: ENERGY STAR Reference Design Homes and Footnote 8:** Replace “Climate Zone” and “CZ” with “HUD Thermal Zone” and “HUD TZ” for consistency with HUD compliance nomenclature.
- High-Efficiency Furnace Package:** Provide an option for 13 SEER AC by requiring higher ceiling/attic insulation levels in applicable thermal zones (for example, R-33 to R-38 in HUD TZ 3).

Rationale: Home manufacturing facilities control insulation levels; they do not have control over site-installed HVAC equipment. This option eliminates the need to verify the outdoor AC unit for homes using that package.

- Envelope-Only Package:** The  $\geq R-19$  wall insulation requirement (with corresponding  $U_o \leq 0.068$  single-section /  $\leq 0.066$  multi-section) will require 2x6 framing. Create a package for HUD TZ 1 (the far South) only that allows 2x4 wall assemblies (with corresponding  $U_o$  values slightly higher than  $\leq 0.068/0.066$ ).

**Version 2**

	HUD TZ 1 (South)	HUD TZ 2	HUD TZ 3 (North)
<b>Prescriptive</b>	$\geq R-19$ wall insulation $\geq R-22$ floor insulation $\geq R-38$ ceiling insulation		$\geq R-21$ wall insulation $\geq R-33$ floor insulation $\geq R-40$ ceiling insulation
	$\leq 0.34$ U-factor for windows, skylights & doors $\geq 50\%$ glazed		
<b>Performance</b>	$U_o \leq 0.068$ single-section $U_o \leq 0.066$ multi-section		$U_o \leq 0.062$ single-section $U_o \leq 0.059$ multi-section

**Proposed Alternative**

	HUD TZ 1 (South)	HUD TZ 2	HUD TZ 3 (North)
<b>Prescriptive</b>	$\geq R-13$ wall insulation $\geq R-22$ floor insulation $\geq R-38$ ceiling insulation	$\geq R-19$ wall insulation $\geq R-22$ floor insulation $\geq R-38$ ceiling insulation	$\geq R-21$ wall insulation $\geq R-33$ floor insulation $\geq R-40$ ceiling insulation
	$\leq 0.34$ U-factor for windows, skylights & doors $\geq 50\%$ glazed		