

August 19th, 2005

Dear Mr. Jonathan Passe,

Below are Southface Energy Institute's comments on the New Proposed ENERGY STAR Guidelines. Please direct any questions to Laura Uhde.

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Southface Energy Institute's comments on the ENERGY STAR Qualified Homes Draft
7/27/05

National Performance Path Notes

For Page 1

Why is there not any incentive for solar PV electric generation? ENERGY STAR should show support for and encourage PV whenever possible. Yes it is not the magic bullet and should be used in conjunction with an energy efficient home, but it is still an important beneficial technology.

In climate zones 1-3, the HERS score required should be 82 instead of 83 (or maybe 82.5). This is because the reference home in these climate zones has higher wall R-values (R-15 for climate zone 3 including Atlanta and Charleston and R-13 for climate zone 2) than is commonly built and the reference home has low-e windows (SHGC=0.40), which is not common in most states in those climate zones. Also, the national BOP suggested probably only scores an 82, although we don't have any firm evidence of this since we don't know how to obtain a HERS score based on the IECC 2004.

For Page 2

2) What about insulation installation grade?

4) There should be a maximum threshold of 0.5 CFM₅₀/SFBE .

5) Ducts should only be measured for leakage to the outside and not total leakage. There is not much benefit to performing the total leakage test once the sheetrock is hung and it requires a lot of extra time (and money) to perform the test at the pre-sheetrock stage. Also, duct systems that are completely visible and inside the envelope should be exempted from the duct testing requirements.

6) Should state, "To prevent condensation, a minimum of R-4 insulation is **required** for ducts in conditioned **and indirectly conditioned** space."

7) Require that a load calculation is performed and recommend that the system is sized to the specifications of the load calculation. Yet, do not require the system to be sized accordingly because there are instances when over sizing the system is acceptable (such as when using a multi-speed blower). Requiring a load calculation is an essential step in transforming the industry to installing correctly sized equipment.

11) Requiring the installation of a whole house mechanical ventilation system when the blower door results are less than or equal to 0.25 CFM₅₀/SFBE may discourage the construction of a tight house; however, this has not been EarthCraft House's experience.

13) While this rarely affects us here in the South, it seems unnecessary and misguided. For example, we have run into a very efficient home (HERS score of 90+) that has a separate water heater for the hydronic system. Both water heaters are very efficient, so it doesn't seem practical to limit the options of the builder.

Proposed item

14) We recommend an "On Demand" or "Manifold" water distribution system, because great savings can be achieved through more efficient hot water distribution.

National Builder Option Package

For Page 1

Cooling Equipment and Heating Equipment:

Have a separate category for climate zones 1&2 and climate zones 3&4. For climate zones 1&2 require 14 SEER and 80 AFUE. For climate zones 3&4 require 13 SEER and 90 AFUE.

Atlanta and much of the South East have more heating degree days than cooling days. Thus, the AFUE should be increased for climate zones 3&4.

Envelope:

Keep the infiltration values the same for all climate zones. In the South controlling humidity is just as important as compensating for the stack effect in Northern climates. Also, use CFM₅₀/SFBE as the units.

For Page 2

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accordingly because there are instances when over sizing the system is acceptable (such as when using a multi-speed blower). Requiring a load calculation is an essential step in transforming the industry to using correctly sized equipment.

4) While this rarely affects us here in the South, it seems unnecessary and misguided. For example, we have come across a very efficient home (HERS score of 90+) that has a separate water heater for the hydronic system. Both water heaters are very efficient, so it doesn't seem practical to limit the options of the builder.

5) Should state, "Ducts must be sealed and tested to 4 cfm to outdoors/100sq. ft of **directly conditioned** floor area..." Because of basements...

6) Require instead of recommend.

7) Insulation installation grade?

11) Up to 1% WFA should be allowed for decorative glass. Rarely do inspectors actually calculate decorative glass area and this has very little impact on the performance.

Thermal Bypass Inspection Checklist

For Page 1

4) First of all, we oppose all sampling, but if you're going to sample, you should inspect **all** homes for **at least** the thermal bypass checklist.

5) Clarify this point. Make it clear that you can't dumb down ENERGY STAR to simply meet local codes.

7) How long must the Provider keep a hard copy of the checklist? Is an electronically scanned copy acceptable?

For Page 2

4) Why is there not a minimum R-Value for attic hatch/drop down stairs? One should be required.

13) Why is there not a minimum R-Value for the Whole-House Fan Attic Penetration? One should be required.

General Comment – alternate BOP

In climate zones 2-4, there should be a BOP that is basically IECC 2004 insulation, tight house, tight ducts, high efficiency furnace or heat pump, regular SEER 13 air conditioner, but no high efficiency water heater, lights, or appliances. This BOP should easily beat the national BOP the EPA came up with since going from 80 AFUE to 90 AFUE will save more energy than SEER 14, lights, and appliances combined.