

Energy - Docket Optical System

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This e-mail is to provide public comment to the draft of the 2013 Residential Compliance Manual, Chapter 4 – Building HVAC Requirements.

In the ventilation sections Central Fan Integrated (CFI) is singled out as requiring more restriction than other types of ventilation. The reason for this appears to be unjustified, unsupported and opinionated based on the following:

- 1) No consideration is given to the benefits of bringing in ventilation into the HVAC system and distributing that air throughout the home. At the same time this air is properly filtered using the HVAC filter.
- 2) No consideration is given to the benefits of insuring proper mixing of the air by using the HVAC system. This cycling can not only provide the benefits of item 1 above but also helps increase comfort of the home by reducing the effects of hot/cold spots caused by home design and/or duct distribution by mixing of the home air.
- 3) The claim of “CFI ventilation systems can use a very significant amount of electricity on an annual basis” is not correct, backed up and misleading. First of all there is no reference point, significant to what? Second there is no study referenced which supports this claim. Without clarification and data it can only be assumed to be speculative and opinionated.
- 4) There are statements that “look back” controls exist and are used which is correct. Since these controls take opportunity to bring in ventilation during naturally occurring heating and cooling calls why would that energy saved not be credited to these types of devices. As properly sized systems are implemented in homes, and is stated in the standard and is desired for efficiency and humidity control reasons, run times of the HVAC system will increase and therefore the “look back” controls energy savings potential will increase proportionately. A single ventilation fan (bath fan for example) would be an energy adder in that it runs no matter what other fan energy is available.
- 5) Using the default option of 0.8 W/CFM is not a valid or substantiated value. There is no reference as to why this value was picked and appears to be put in place as a way to unfairly penalize CFI systems. Referring to the attached link http://www1.eere.energy.gov/buildings/appliance_standards/residential/pdfs/hvac_app_07-f_furnace_fan_consumption_2011-04-25.pdf a value of 0.3-0.4 W/CFM may be more appropriate and at least backed by some type of study.
- 6) Even at the default values in point 5 the statement of “significant amount of electricity” becomes even more obvious as unsubstantiated and opinionated. The standard states that “0.25 W/CFM is typical for single exhaust fans”. Since this is a typical measure the difference between a single exhaust fan and the substantiated default values is far from “very significant”. In fact is much more equal to or possibly less if methods such as “look back” are employed.
- 7) The standard allows for systems that utilize HRV/ERV systems to account for recovery benefit in performance calculation, however CFI is not allowed to account for potential energy reduction benefits mentioned above. This points out the unfair singling out of CFI systems.

In section 4.6.4 there is a statement “the occurrence of asthma has also increased as the interior relative humidity has gotten higher”. This statement is completely misleading and implies causation between increased humidity levels and asthma. There is no study which supports this causation and your statement is clearly an attempt at correlation. This statement should be removed from the document. In addition in this section is the statement “The presence of moisture condensation has been a leading cause of mold and mildew in new and existing construction”. What study backs up this statement? Improperly applied building practices which allow for dew point conditions to occur over a

long period of time cause mold, not humidity levels in the home. In addition these improper building practices lead to leaks which also contribute to high and extended moisture conditions in the building materials. Your attempt at correlation of humidity levels to mold growth is misleading and should be removed from the document. Properly controlling humidity levels through the addition and removal should be promoted for energy savings, building preservation, comfort and health verses implying humidity is the cause of mold. There are extensive studies which back up both the energy savings and health benefits of proper humidity levels. These can be supplied if desired.

Thank you for the opportunity for input.

Sincerely,

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