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TO: Virginia Building Code Officials Association
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Home Builders Association of Virginia
Plumbing and Mechanical Professionals of Virginia

FROM: Emory Rodgers, Deputy Director *EMR*
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RE: Whole House Ventilation

The purpose of this memo is to provide guidance on certain aspects of code requirements specific to whole house ventilation requirements. A previous memo stated that the method of compliance was to be determined by the applicant. However, there were a number of questions that were raised, primarily related to the "exhaust only" method of ventilation.

To help clarify these issues, DHCD convened a meeting of stakeholders to discuss the methods and related questions. Organizations represented at the meeting included Virginia Building Code Officials Association Energy Committee, Virginia Plumbing Mechanical Inspectors Association, Plumbing & Mechanical Professionals of VA, Home Builders Association of Virginia, EarthCraft Virginia and Mike Moore, Newport Ventures consultant for Broan-NuTone.

I am pleased to report that the DHCD convened Stakeholders did reach consensus on the plain language wording of the code that is outlined later in this memorandum in a Q & A format. There was additional agreement that further clarification of these provisions of the code would be appropriate during the 2015 code update cycle.

Also of note, is the information discussed related to safety and other issues such as negative pressure, toxicity dangers from attached garages, sizing of equipment, cost/benefit issues and real life use by consumers.

The following consensus positions were agreed upon by those present:

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Exhaust Method

Q: Are bathroom fans permitted as a method of achieving whole house ventilation?

A: Yes. The fans must be sized to achieve a minimum airflow in accordance with M1507.3.3 and meet the efficacy requirements in accordance with the Virginia Residential Code, Section N1103.5.1 (VA Energy Code, R403.5.1).

Q: Section 1507 requires that a manual override be provided. Does a switch on the wall meet this requirement?

A: Yes. A switch can perform the function of a manual override.

Q: If the fan is configured to run continuously when it is powered, does that constitute continuous?

A: Yes. As long as the fan is configured to run continuously while powered (the switch is on), the fan can be sized for continuous ventilation as opposed to intermittent.

Q: If a the fan provides adequate cfm in accordance with Section M1507.3.3, has the required efficacy in accordance with R403.5.1, and provides a switch in accordance with M1507.3.2 so that it can be turned off, have code requirements for whole house ventilation been met?

A: Yes.

Q: What is an example of an intermittent exhaust-ventilation system that can be used to meet the whole-house mechanical ventilation requirement?

A: An exhaust fan located in a central hallway, bathroom, or other room and equipped with a timer to operate at least one hour out of every four hours is one example of an intermittent system, provided the fan meets the efficacy and flow rate requirements of the code (i.e., Section R403.5.1 and Section M1507.3.3).

Supply Method

Q: Does using a central fan integrated supply ventilation system require special consideration when sizing heating and cooling equipment?

A: Those present indicated that designers know that if this is the method being used they incorporate it into their calculations. Others present indicated that typically units are oversized anyway due to standard sizing by manufacturer. The supply side ventilation addition does not substantially affect the sizing.

Q: What are the fan efficacy requirements for central fan integrated supply ventilation systems?

A: Fans must meet the efficacy requirements of Section R403.5.1.

Q: What type of damper is required on the outdoor air duct of a central fan integrated system?

A: The damper must comply with Section M1507.3.2

Q: Are central fan integrated supply systems considered intermittent?

A: Yes, a central fan integrated device must provide a control to ensure that the minimum run time is met, regardless of whether there is a call for heating or cooling (Section M1507.3.3). Such systems also typically account for the time the ventilation system runs during a heating/cooling event, and subtract that time from the total ventilation time needed during the period.

Balanced/Recovery Systems

No code concerns at this time.

DHCD and our stakeholders will continue to work collaboratively to ensure that information on these new code requirements are distributed as widely as possible and will integrate the information into the training provided by the Jack Proctor Code Academy.

Links to additional resources can be found on the DHCD website at www.dhcd.virginia.gov