INTERPRETATION IC 62.2-2007-9 OF
ANSI/ASHRAE STANDARD 62.2-2007
Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings

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Request from: Mike Moore (mmoore@newportpartnersllc.com), Newport Ventures, representing Broan NuTone, 22 Jay St., Schenectady, NY 12305.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.2-2007, Section 4.4 and Table 4.2, relating to intermittent ventilation rates.

Background: ASHRAE 62.2-2007 requires whole building ventilation be provided by a "mechanical exhaust system, supply system, or combination thereof" (4.1). Additionally, 62.2 defines exhaust systems and supply systems as being composed of "one or more fans". Undoubtedly, the intent is that multiple fans can be used as a system to provide whole building ventilation requirements. In Section 4.4, ASHRAE 62.2-2007 provides equation 4.2 to determine the fan flow rate requirements for intermittently operating ventilation systems. While this equation provides clear guidance for calculating delivered flow rate requirements when a single fan is operating intermittently, it does not clearly address how to calculate flow rate requirements when multiple fans are controlled to operate intermittently as a whole-house ventilation system. An interpretation is needed to show how this section may be applied to permitted multi-fan intermittently operating systems.

Interpretation: When specifying a multi-fan intermittently operating system for a whole-house ventilation system, the following steps may be used to demonstrate compliance with the delivered ventilation rate requirements of ASHRAE 62.2-2007 Section 4.4.

- The relationship between Q_r, the ventilation air requirement from Table 4.1a or Table 4.1b, and the fan flow rates of the individual fans, Q_{fi}, shall be defined as follows:

$$\sum_{i=1}^{n} \varepsilon_i \cdot f_i \cdot Q_{fi} \geq Q_r$$

where

n = total number of fans in whole-house ventilation system
ε_i = ventilation effectiveness of ith fan
f_i = fractional on time of ith fan
Q_{fi} = fan flow rate of ith fan
Q_r = ventilation air requirement (from Table 4.1a or 4.1b)

Question: Is this Interpretation correct?

Answer: Yes