INTERPRETATION IC 62-2001-02 OF
ANSI/ASHRAE STANDARD 62-2001
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

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Reference: This request for interpretation refers to Section 6.2, Indoor Air Quality Procedure, of
ANSI/ASHRAE Standard 62-2001.

Background: In the process of applying the IAQ Procedure, the question is frequently brought
forth of how to know that compliance with the IAQ Procedure has been accomplished.
Therefore, the following interpretation is submitted.

Interpretation: The following approach to applying the Indoor Air Quality Procedure complies
with the intent of ANSI/ASHRAE Standard 62-2001.

1) Perform an evaluation of the building. The building's design, operation, and use are
   discussed with the building owner or engineer while identifying target contaminants of
   concern that may be present and have a direct impact on IAQ. Information of the properties
   of the HVAC system being used, installed, or designed for the building are gathered. The
   following data can be determined from the HVAC system discussion.
   - E_v: ventilation effectiveness
   - F_r: flow reduction factor
   - R: recirculation flow factor
   - V_r: volumetric flow of return air
   - V_o: volumetric flow of outdoor air
   - V_s: volumetric flow of supply air

2) Identify the contaminants of concern, both particulate and gaseous, and obtain relevant
   indoor and outdoor data through direct monitoring, published studies of similar buildings,
   information gathered by government agencies and research studies, or other referenced
   information. The following data can be determined through this step for each contaminant of
   concern.
   - C_o: contaminant concentration in the outdoor air
   - N: contaminant generation rate

3) Obtain relevant filter efficiency information for the contaminants of concern. The filter
   efficiency is an inherent property of the filtration system and can be supplied by the
   manufacturer or through independent testing and verification. Particulate matter filters will
   have a MERV rating of 6 or greater. The following data can be determined through this step
   for each contaminant of concern.
   - E_f: efficiencies of the filter for contaminant

4) Perform calculations of indoor space contaminant concentrations based on the gathered information. The equations used for the calculations are those in Appendix D of ANSI/ASHRAE Standard 62-2001. The following data can be calculated in this step for each contaminant of concern.

   C_s: contaminant concentration in the space

5) Compare these concentrations to the recommended exposure limits and verify that contaminant concentrations meet the standard and guideline criteria through reference to one or more of the following.

- **TABLE 1**. National Primary Ambient-Air Quality Standards (NAAQS) for Outdoor Air as set by the U.S. Environmental Protection Agency
- **TABLE 3**. Guidelines for Selected Air Contaminants of Indoor Origin
- **TABLE B-1**. Standards Applicable in the United States for Common Indoor Air Pollutants
- **TABLE B-2**. Guidelines Used in the United States for Common Indoor Air Pollutants
- **TABLE B-3.** Summary of Canadian Exposure Guidelines for Residential Indoor Air Quality
- **TABLE B-4**. WHO working Group Consensus of Concern About Indoor Air Pollutants at 1984 Levels of Knowledge
- Other relevant/up to date standards/guidelines issued by cognizant authorities.

6) After design, installation and startup, design criteria and assumptions are documented and made available to the owner in accordance with Section 7.2.6 Construction and Systems Start-up: Documentation.

7) An air and filtration system monitoring methodology, including both quantitative and subjective evaluations is agreed upon. Filters are to be changed based on performance data in order to assure continuous compliance with the above stated limits and calculations as mentioned in Section 8.4.1.1 Ventilation System Maintenance: Filters and Air-Cleaning Devices. Changes in building use or occupancy category, significant building alterations, significant changes in occupant density, or other changes inconsistent with system design assumptions are to trigger a reevaluation of the design, operation and maintenance.

Question: Is this interpretation correct?

Answer: Yes.

Comment: The interpretation describes one acceptable approach. Note that the use of quantitative and/or subjective evaluations depends on the particular contaminants addressed in the application. Also note that the equations in Appendix D of the standard are based on a single-zone representation of the space in question and are not appropriate when dealing with multiple zone systems. Finally, note that revisions have been proposed to the Indoor Air Quality Procedure, and the requester is advised to stay abreast of these and other changes to the standard.