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Home Energy Efficiency

Interpretation: Mechanical Ventilation System Controls

Designation IR 301-2019-017, 301-2

Approved: October 25, 2020 by RESNET SDC 300

Effective Date: November 24, 2020

Request from:

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This request for interpretation refers to the requirements presented in Standard:
ANSI/RESNET/ICC 301-2019
ANSI/RESNET/ICC 301-2022
ANSI/RESNET/ICC 301-20252

Page Number(s): 301-2019: pg.6, pg.B-52
Section(s): 3. Definitions, Normative Appendix B – Mechanical Ventilation Systems
Table(s):
Relating to: Mechanical Ventilation

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Background:

This interpretation request relates to requirements for whole-house/dwelling unit mechanical ventilation control systems, and is relevant to three different Standards documents - 301-2019.

ANSI/RESNET/ICC 301-2019 defines a dwelling-unit mechanical ventilation system as "a ventilation system consisting of powered ventilation equipment such as motor-driven fans and blowers and related mechanical components such as ducts, inlets, dampers, filters and associated control devices that provides dwelling unit ventilation at a known or measured airflow rate." Data collection for individual dwelling-unit mechanical ventilation systems that serve a single dwelling unit can be found in Normative Appendix B, p. B-52. "Where the fan is equipped with a timer, document the run time for the fan. If the fan is set to run continuously, then document the run time as 24 hours."

The first question is, must a rater verify that a dwelling-unit mechanical ventilation system has control systems to operate the system either continuously or on a programmable schedule for the system to count as dwelling-unit mechanical ventilation?

The second question is, if yes, shall an exhaust only system count as having controls if a bath, kitchen, or exhaust system has a standard On/Off switch to enable continuous dwelling-unit mechanical ventilation operation without labeling of the switch, or does such a control system require labeling to clearly identify the purpose of the switch to control dwelling-unit mechanical ventilation?

The third question related to this issue is directed towards supply only systems. Shall a fresh air duct connected to the return of a central air handler, with or without a mechanical damper installed, with a thermostat capable of being set to "Fan On" to enable continuous ventilation operation count without labeling of the thermostat, or must the thermostat be labeled to indicate that "Fan On" must be set to enable dwelling-unit mechanical ventilation?

(This statement should identify what is unclear or contradictory in the standard and why clarification is necessary.)

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Interpretation:

1) A rater shall verify that a dwelling-unit mechanical ventilation system has control systems to operate the system either continuously or on a programmable schedule for the system to count as dwelling-unit mechanical ventilation.
2) An exhaust only system that has a standard On/Off switch to enable continuous ventilation shall only be considered a dwelling-unit mechanical ventilation if the system is labeled to clearly identify the purpose of the switch to control dwelling-unit mechanical ventilation.
3) A fresh air duct connected to the return of a central air handler, with or without a mechanical damper installed, shall be considered dwelling-unit mechanical ventilation only if the thermostat is labeled to clearly identify that the "Fan On" switch be set to "On" to enable dwelling-unit mechanical ventilation.

Question: Is this Interpretation correct?

SDC Answer:
Question 1: ____Yes___
Question 2: ____No___
Question 3: ____No___

SDC Comments:

Question 1: Standard ANSI/RESNET/ICC 301-2019 Addendum B-2020 revised the definition for *Dwelling Unit Mechanical Ventilation System* (DUMVS) to clarify the criteria for what constitutes a DUMVS.

> *Dwelling Unit Mechanical Ventilation System* – A Ventilation system, operating continuously or through a programmed intermittent schedule, consisting of powered Ventilation equipment,[9] related mechanical components,[10] and automated control devices that provides Dwelling Unit Ventilation at a known or measured airflow rate.
>
> [9] (Informative Note) Such as motor-driven fans and blowers.
> [10] (Informative Note) Such as ducts, inlets, dampers, or filters.

However, Addendum B-2020 did not update Standard 301-2019 Appendix B to specifically state raters must verify that a ventilation system meets the revised definition for *Dwelling Unit Mechanical Ventilation System*. Raters must verify that a ventilation system meets the definition of Addendum B-2020 to be considered a DUMVS.

Further, manual switches and thermostat settings, which enable the occupant to turn a ventilation system on and off, are **not** considered sufficient to meet the requirement that the ventilation system is "operating continuously" or "through a programed intermittent schedule" controlled by an "automated control device".

Question 2: The proponents interpretation proposes new requirements which cannot be created by interpretations. New requirements must be pursued via RESNET's consensus standard development procedures.

Question 3: The proponents interpretation proposes new requirements which cannot be created by interpretations. New requirements must be pursued via RESNET's consensus standard development procedures.