Systemair Mfg. Inc.
10048 Industrial Blvd
Lenexa, KS 66215

T (913) 752 6000
F (913) 752 6480

March 21, 2018

Mrs. Abigail Daken
Manager, ENERGY STAR HVAC Program
Office of Air and Radiation
U.S. Environmental Protection Agency
Washington, DC 20460

VIA EMAIL TO: daken.abigail@epa.gov

Subject: Systemair/Fantech response to ENERGY STAR Program Requirements Product Specification for Residential Ventilating Fans Version 4.1 Draft Proposal

Dear Mrs. Daken;

Systemair, manufacturer of residential ventilation products under the Fantech brand name, would like to take this opportunity to comment on ENERGY STAR Program Requirements Product Specification for Residential Ventilating Fans Version 4.1 Draft Proposal.

As you may be aware, Systemair/Fantech has been supportive of the ENERGY STAR residential ventilating fan program since its inception, providing language and commentary as an individual company and through HVI. Throughout the world Systemair works actively to develop and promote energy efficient and healthy, residential and commercial, ventilation standards and products. A Systemair representative, Alex Rasmussen serves as the current Chairman of Eurovent, and I currently serve as Chairman of HVI.

Systemair/Fantech supports most of the draft changes in Version 4.1, but agree with the comments provided by HVI in its March 20 letter. In addition, Systemair would like to take this opportunity to re-state our support for including Remote Exterior Mounted Ventilators and HRV's/ERV's in Version 4.1. We expressed these suggestions in our comments submitted during the prior comment period in December 2014, which preceded Version 4.0.

Regarding Remote Exterior Mounted Ventilators, your slide from the March 8 webinar shows:

Considered & not Included for Draft Version 4.1

- Remote exterior mounted ventilators
  - Limited product data in HVI directory
  - Only one brand owner with data in the HVI directory, listed as two brand names

Reference https://www.hvi.org/proddirectory/CPD_Reports/section_1/index.cfm . In contrast to the information on the slide, as of March 16, 2018 there are 92 fan models, some multiple listings, listed from three manufacturers. In addition, there are many more fans, from multiple manufacturers, that fit in this category but which are only "Licensed to bear the AMCA Seal". Manufacturers could HVI Certify these products, thereby greatly increasing the offering within this category. Distinguishing, and thereby

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promoting, the more efficient products in this category would provide significant energy savings. Fantech/Systemair provided detailed suggestions in our December 2014 comments as to how these fans could be included in the EnergyStar scope. I insert these below:

> Regarding Para 1) Definitions
>
> One type of residential ventilating fans that is neither defined nor excluded in the definitions is the **remote mounted exterior ventilator**. These fans are commonly used for bathroom, utility room, and garage exhaust, and usually mounted on the roof or exterior wall, ducted to the inside of the residence.
> Systemair suggests that this category be included in the ENERGY STAR Program for Residential Ventilating Fans V4.0 . We have identified the following required changes to the document:
> Para 1) Definition to be added. The definition in HVI 920 para 3.21.16 is:
> Remote mounted exterior ventilator (REMV) – An exhaust fan intended for mounting in an exterior location, usually connected by ducts to an interior device such as downdraft intake, a range hood shell, or a grille.
> Para 2) "remote mounted exterior ventilator" to be added as a product type in 2) A.
> Para 3) A. Table 2 An additional row to be added in the table. Rated airflow can be N/A. Minimum efficacy to be set to 3.5 cfm/W initially; a medium from other fans, and achievable at 0.1 in.w.g. Sound Level shall be N/A for the same reason as for in-line fans.
> Para 3) A.b. Add this product type.
> Para 4) C.a. Add this product type.

Regarding the inclusion of HERV in Version 4.1 we provide the following from our December 2014 comments:

> Systemair would like to take this opportunity to express our support for the addition of energy recovery ventilators (HRVs and ERVs) to next version the US program. These product types, which ventilate residences in a significantly more efficient manner than exhaust fans, have a very low penetration rate in the US compared to Canada and Western Europe. Inclusion of these highly efficient product types in the ENERGY STAR program will result in increased usage, thereby yielding more significant reductions in overall energy usage.

Since then the Canadian EnergyStar specification for HRV/ERV has been established and implemented. Virtually all manufacturers of residential HRV's and ERV's sold in North America are members of HVI. To this we would like to add progress that has been made in defining appropriate requirements for the US market. In HVI committee work it has been agreed to make recommendations and comments to EnergyStar. The following was agreed on:

"HVI Staff to recommend to EPA/ENERGY STAR that the US HERV ENERGY STAR specifications be 1.2 CFM/Watt in all cases, and that an Adjusted Sensible Recovery Efficiency minimum of 65% at 0°C is applicable for all zones of the US. (Matthew Friedlander moved, Russell Pope second) Unanimous approval by Designated Voters present."

Further, it was agreed to support this recommendation as follows:

A. By including HRV/ERV in the ENERGY STAR Program Requirements Product Specification for Residential Ventilating Fans Version 4.1 you support the use of a well-accepted ventilation system that serves the same function as fans but provides superior energy efficiency (and comfort).
B. As you suggested during the fall meeting, this can be compared to water vs. air source heat pumps; alternate technical solutions providing the same function but have different performance criteria.

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C. As US residential energy modeling programs typically treat the energy consumption of fan motors in HERV's separately, HVI's recommendation is to use ASRE. This may be a consideration for future versions of the Canadian EnergyStar specification, but is not necessarily the right criteria for Canada where the difference between SRE and ASRE is well understood and considered in calculations.
D. The energy efficiency test at -25 deg. C outside temperature and 40% indoor RH is, in Systemair/Fantech's view, a largely functional test showing that the unit will operate properly under extreme conditions. Rather than including this in the specification as was done in Canada, we suggest it is better for the US to let local codes require ratings at this point where climatically justified.
E. EnergyStar has expressed concern with poor installations of HERV's. In our view this is largely a historical concern. As HERV's have been more widely accepted installation practices have been improved. However, HVI will develop suggested best practice installation instruction recommendations for EnergyStar to consider for adoption. This will address potential energy and comfort variations and advantages of different installation options in various climates.

Systemair is grateful for the opportunity to comment on EPA's ENERGY STAR Product Specification for Residential Ventilating Fans V4.0. We look forward to your contacting us with your comments and questions in regards to these suggestions.

Sincerely,

Ola Wettergren
Business Development Director
E: mail: ola.wettergren@systemair.net
Tel. 941-350-7055

Cc. Jackie Donner, HVI
Bertrand Poirier, NA Technical Director, Systemair
Kenny Bui, Product Manager - Fans, Systemair