



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

November 28, 2016

Dear ENERGY STAR® Light Commercial HVAC Brand Owner or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) is pleased to share the attached Final Draft Version 3.0 ENERGY STAR Light Commercial HVAC specification. EPA plans to finalize this specification in December 2016, with an effective date aligned with the change to minimum efficiency standards on January 1, 2018.

Comments on the Draft 2 proposal were largely supportive, so this Final Draft includes only minor adjustments to it.

IEER and COP47 requirements for Large Unitary Heat Pumps

Commenters expressed confusion that the proposed level for COP47 (3.3) was slightly different from the CEE level (3.2). This arose because the level in V2.2 is 3.25, and while EPA moved to rounding to tenths, it did not want to have a lower value than in the current specification. Upon further reflection, EPA agrees that the market influence of shared specifications is more important than a slight decrease in one of four metrics, and has adopted 3.2 for COP47.

A commenter also expressed concerns about the IEER requirement for large and small unitary heat pumps, pointing out that the differential between air conditioner and heat pump requirements in the Draft 2 proposal was larger than that in similar high efficiency equipment and building specifications. While acknowledging this point, EPA maintains the Draft 2 IEER proposals in this Final Draft. EPA's analysis shows that about a quarter of models on the market meet these requirements, indicating sufficient availability. Ultimately, this is what the ENERGY STAR levels seek to identify, rather than a specific set of technologies.

Variable Refrigerant Flow (VRF) requirements

Stakeholders had conflicting comments about the VRF proposals in Draft 2. Manufacturers pointed out the difference in IEER requirements between unitary and VRF levels in the Draft 2 proposal are larger than in other specifications for efficient equipment and buildings. However, another commenter pointed out that large VRF systems do not share the static pressure disadvantage in testing that large unitary systems have in comparison to small unitary systems, and there is therefore no reason they should need lower IEER requirements. EPA acknowledges both points, but maintains the Draft 2 IEER proposals in this Final Draft, based on its analysis of product availability as published on September 22, 2016.

In addition, manufacturers recommended eliminating the requirements for EER and COP17 for VRF units, claiming that with the relatively small number of models of VRF systems, it was difficult to find models at every capacity that meet all four requirements. They argue that IEER and COP47 are sufficient to capture seasonal energy use and savings. Given the relative novelty of these products in the market, and their great potential for energy savings, EPA has

chosen to eliminate the COP17 requirement for this version. As VRF products become more common, EPA would expect to include COP17 requirements in future specification versions. Similarly to COP47 for large unitary heat pumps, EPA has chosen to adopt a COP47 of 3.2 for VRF Heat Pumps greater than or equal to 135,000 Btu/h and less than 240,000 Btu/h. This too will allow for better alignment with shared specifications.

Submitting Comments

Stakeholders who wish to provide written comments may send them to LCHVAC@energystar.gov by **December 12, 2016**. All comments will be posted to the ENERGY STAR Product Development website unless the submitter requests otherwise.

To track EPA's progress in developing the ENERGY STAR Light Commercial HVAC specification, visit the ENERGY STAR website at www.energystar.gov/revisedspecs (click on the Light Commercial HVAC "Version 3.0 is in development" link).

EPA shares its Partners' desire for a smooth transition from one ENERGY STAR specification version to the next, such that ENERGY STAR labeled products meet the latest requirements when they go into effect and that partners have time to transition their collateral material. With this in mind and consistent with its approach for other product categories, EPA is sharing the following timeline for light commercial HVAC:

- Upon completion of the Version 3.0 specification development process, manufacturers may elect to have their Certification Body (CB) certify their eligible products to the Version 3.0 requirements.
- On August 15, 2017 CBs will be instructed to stop certifying new product submittals to Version 2.2. Note, however, that existing certifications to Version 2.2 will remain valid for the purposes of ENERGY STAR qualification until January 1, 2018.
- Any product manufactured as of January 1, 2018, must meet Version 3.0 requirements to bear the ENERGY STAR mark. All certifications of products to the Version 2.2 specification will be invalid for purposes of ENERGY STAR qualification and CBs will only submit product models certified to Version 3.0 to EPA.

Please direct any specific questions to Abigail Daken, EPA, at Daken.Abigail@epa.gov or 202-343-9375 and Jacob Bayus, ICF, at Jacob.Bayus@icf.com or 202-791-8871.

Thank you for taking the time to review this Final Draft document.

Sincerely,



Abigail Daken, Product Manager
ENERGY STAR for HVAC