Appliance Standards Awareness Project
Alliance to Save Energy
American Council for an Energy-Efficient Economy
Consumers Union
National Consumer Law Center
Natural Resources Defense Council
Northwest Energy Efficiency Alliance

July 21, 2014

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Program
1000 Independence Avenue, SW
Mailstop EE-2J
Washington, DC 20585

RE: Docket Number EERE–2012–BT–STD–0027/ RIN 1904–AC81: Preliminary Technical Support Document for Dehumidifiers

Dear Ms. Edwards:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), Alliance to Save Energy (ASE), American Council for an Energy-Efficient Economy (ACEEE), Consumers Union (CU), National Consumer Law Center (NCLC), Natural Resources Defense Council (NRDC), and Northwest Energy Efficiency Alliance (NEEA) on the preliminary technical support document (TSD) for dehumidifiers. 79 Fed. Reg. 29380 (May 22, 2014). We appreciate the opportunity to provide input to the Department.

We urge DOE to establish a single product class for all portable dehumidifiers except high-capacity units (i.e. a single product class for all portable dehumidifiers ≤ 45 pints/day as measured by the proposed test procedure). For the preliminary analysis, DOE retained the same product classes for portable dehumidifiers that are part of the current standards.[1] The highest efficiency levels evaluated for the ≤ 20 pints/day and 20.01-30 pints/day product classes are 19% and 13% lower (i.e. less stringent), respectively, than those for products with capacities from 30.01-45 pints/day.[2] However, DOE has not demonstrated that dehumidification capacity is a feature that justifies a weaker standard.[3] On the contrary, in the preliminary TSD, DOE determined that there is no inherent relationship between capacity and efficiency and that efficiency instead is primarily a function of chassis size.[4] The availability of dehumidifiers with capacities as low as 25 pints/day[5] that meet the current ENERGY STAR specification—which specifies an EF of 1.85 for all dehumidifiers with capacities up to 75 pints/day—seems to

[1] With adjustments made to the capacity ranges to reflect the proposed changes to the test procedures.
[2] Preliminary TSD. p. 5-8. Table 5.3.2.2.
[3] *See* 42 U.S.C. § 6295(q)(1).
[4] Preliminary TSD. p. 2-6.
[5] As measured by the current test procedure.

confirm DOE's observation that there is no inherent relationship between capacity and efficiency.[6]

In explaining why DOE has not consolidated product classes, the preliminary TSD states that because each manufacturer has developed different sets of chassis sizes, "the ability to achieve certain efficiency levels within each of the existing product classes is also different from manufacturer to manufacturer."[7] According to the preliminary TSD, retaining multiple product classes therefore allows DOE "to individually consider appropriate efficiency levels and potential standards in each class that will take into consideration its unique performance factors and costs."[8]

But the possibility that some manufacturers' current chassis components may leave them badly positioned to meet certain efficiency levels at certain capacities does not justify the use of separate product classes to shield those manufacturers from stronger standards. (We also note that the preliminary TSD states that the majority of dehumidifiers are manufactured overseas by three major manufacturers and then imported and sold under a variety of brands, and other dehumidifiers are sold directly into the U.S. market by foreign OEMs. [9] We are not aware of any domestic manufacturing of portable dehumidifiers.) At most, the *cost* (not the ability) to meet a standard level is "different from manufacturer to manufacturer." That possibility may merit consideration downstream in the manufacturer impact analysis or in the analysis of the impact of the standards on competition. But as DOE has acknowledged that dehumidifiers with different capacities can meet the same efficiency level, any "unique performance factors and costs" appear to be unique only to a manufacturer's existing chassis design for a given capacity level, rather than to the capacity level itself.

However, even if DOE elects to retain the current product classes, the engineering analysis should include chassis size increases as a technology option. The engineering analysis needs to reflect the production cost of meeting a proposed efficiency level, not the production cost of meeting an efficiency level if the manufacturer uses a chassis design ill-suited to meeting that level. Constraining the estimated production costs by assuming use of a sub-optimal chassis may inflate the projected cost of a dehumidifier meeting a given efficiency level.

We urge DOE to evaluate potential efficiency improvements from permanent magnet fan motors. For the preliminary analysis, DOE did not consider permanent magnet fan motors in the engineering analysis. In the preliminary TSD, DOE states that overall improvements to IEF from permanent magnet fan motors would be small and that manufacturers would incur significant costs to employ permanent magnet motors.[10] While costs to both consumers and manufacturers are clearly important considerations in determining appropriate standard levels, costs cannot be considered in establishing the "max-tech" levels for the analysis. DOE has analyzed permanent magnet fan motors in several recent rulemakings including those for furnace fans, walk-in coolers and freezers, and commercial refrigeration equipment. Unless the potential savings are

[6] ENERGY STAR Certified Dehumidifiers. http://www.energystar.gov/productfinder/product/certified-dehumidifiers/. Accessed 7/7/14.
[7] Preliminary TSD. p. 2-6.
[8] Preliminary TSD. p. 2-6.
[9] Preliminary TSD. p. 3-7.
[10] Preliminary TSD. p. 5-25.

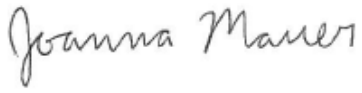
trivial, permanent magnet fan motors should be incorporated as a technology option in the engineering analysis.

We urge DOE to analyze potential heat exchanger improvements beyond increased cross-sectional area. For the preliminary analysis, DOE evaluated increased cross-sectional area as the only heat exchanger improvement.[11] The preliminary TSD notes that while increasing heat exchanger cross-sectional area has the most significant impact on heat exchanger performance, there are other potential heat exchanger improvements such as increasing the number of tube rows or bends in a heat exchanger of the same cross-sectional area.[12] While increasing heat exchanger cross-sectional area may be the only common heat exchanger improvement in products available today, this does not mean that there are not additional heat exchanger improvements that could increase efficiency. Unless the potential savings are trivial, these additional heat exchanger improvements should be incorporated in the engineering analysis.

We urge DOE to analyze potential efficiency improvements beyond the efficiency levels of the most-efficient currently available products. For the preliminary analysis, DOE used the maximum efficiency levels that are currently commercially available as a proxy for the "max-tech" levels.[13] For the NOPR analysis, we urge DOE to analyze potential efficiency improvements beyond the efficiency levels of the most-efficient currently available products in order to evaluate true "max-tech" levels. For example, as noted above, modest increases in chassis size, permanent magnet fan motors, and additional heat exchanger improvements may provide further efficiency gains. We would expect that the "max-tech" levels would be higher than the efficiency levels of the most-efficient currently available products.

Thank you for considering these comments.

Sincerely,



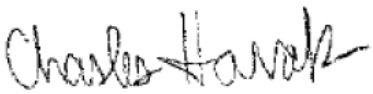
Joanna Mauer
Technical Advocacy Manager
Appliance Standards Awareness Project

Rodney Sobin
Director of Research and Regulatory Affairs
Alliance to Save Energy

Harvey Sachs
Senior Fellow
American Council for an Energy-Efficient Economy

Shannon Baker-Branstetter
Policy Counsel, Energy and Environment
Consumers Union

[11] Preliminary TSD. p. 5-29.
[12] Preliminary TSD. p. 5-30.
[13] Preliminary TSD. p. 5-8.



Charles Harak, Esq.
National Consumer Law Center
(On behalf of its low-income clients)

Elizabeth Noll
Energy Efficiency Advocate
Natural Resources Defense Council

Charlie Stephens
Sr. Energy Codes & Standards Engineer
Northwest Energy Efficiency Alliance