

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

May 11, 2015

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Program
Mailstop EE-5B
1000 Independence Avenue, SW
Washington, DC 20585

RE: Docket Number EERE–2014–BT–TP–0014/RIN 1904–AD22: Notice of Proposed Rulemaking for Test Procedures for Portable Air Conditioners

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), National Consumer Law Center (NCLC), Natural Resources Defense Council (NRDC), and Northwest Energy Efficiency Alliance (NEEA) on the notice of proposed rulemaking (NOPR) for test procedures for portable air conditioners. 80 Fed. Reg. 10212 (February 25, 2015). We appreciate the opportunity to provide input to the Department.

We support DOE’s proposed test procedure for portable air conditioners. In the test procedures NOPR, DOE proposes to use the AHAM PAC-1 test procedure to measure cooling capacity and cooling efficiency with adjustments to account for the impacts of infiltration air and duct and case heat transfer.¹ We believe that the proposed test procedure appropriately balances the need for representative measures of cooling capacity and efficiency with test burden. The proposed test procedure is based on the current industry test procedure—AHAM PAC-1-2014—but includes adjustments to cooling capacity that are necessary to reflect real-world cooling capacity and efficiency. Most importantly, DOE’s proposed test procedure accounts for the impact of infiltration as a result of some or all of the condenser air flow being drawn from the conditioned space and exhausted outside. DOE found that even the dual-duct units in the Department’s test sample had net infiltration rates of 37-72%,² meaning that 37-72% of the condenser air flow was being drawn from the conditioned space. Single-duct units draw 100% of the condenser air flow from the conditioned space, and DOE found that after accounting for the impacts of infiltration air heat input, three of the single-duct units in the Department’s test sample actually had negative cooling capacities.³

¹ 80 Fed. Reg. 10213-14.

² 80 Fed. Reg. 10223. Table III.4.

³ 80 Fed. Reg. 10224-25. Table III.5.

In our comments on the test procedures notice of data availability (NODA), we encouraged DOE to adopt a test procedure based on the calorimeter approach.⁴ We appreciate the significant amount of testing that DOE conducted using both the calorimeter approach and the “modified AHAM” approach. We support using AHAM PAC-1-2014 with adjustments to account for the impact of infiltration air and duct and case heat transfer given what appears to be a good correlation between the modified AHAM test results and the calorimeter test results.⁵

We continue to support using infiltration air conditions of 95°F dry-bulb temperature and 75°F wet-bulb temperature. In the test procedures NOPR, DOE proposes to use infiltration air conditions of 95°F dry-bulb temperature and 75°F wet-bulb temperature, in accordance with the outdoor conditions specified in AHAM PAC-1-2014.⁶ At the public meeting on March 18, 2015, one manufacturer commented that the proposed infiltration air conditions are inappropriate because these conditions occur for only a small portion of the cooling season.⁷ However, since AHAM PAC-1-2014 is conducted using outdoor air conditions of 95°F dry-bulb temperature and 75°F wet-bulb temperature, we believe that it is important that these same conditions be used for the infiltration air to reflect the real-world performance of portable air conditioners under these outdoor air conditions.

We recognize that in some cases the infiltration air may not all come directly from the outdoors, but rather from another room or from an attic or garage, for example. However, as we noted in our comments on the test procedures NODA, all infiltration air is ultimately coming from the outdoors and adding heat to the home where the portable AC is installed.⁸ In addition, we suspect that in many cases the bulk of the infiltration air will in fact be coming directly from the outdoors due to imperfect installations resulting in leaks through the window where the portable air conditioner is installed. We also suspect that over time, a greater portion of the infiltration air will come directly through the window where the portable air conditioner is installed due to deterioration of the installation as the unit is repeatedly removed and re-installed.

We encourage DOE to attempt to ensure that the definition for spot cooler does not create a loophole. In the test procedures NOPR, DOE proposes not to establish a test procedure for spot coolers. DOE also proposes a definition for “spot cooler.”⁹ We encourage DOE to attempt to ensure that the definition for spot cooler does not create a loophole where products that are not intended to be used as spot coolers could meet the definition of “spot cooler” and thereby avoid having to comply with the standard for portable air conditioners.

Thank you for considering these comments.

Sincerely,

⁴ Comment ID: EERE-2014-BT-TP-0014-0006.

⁵ Test Procedures Public Meeting Presentation. p. 36. ID: EERE-2014-BT-TP-0014-0011.

⁶ 80 Fed. Reg. 10224.

⁷ Public Meeting Transcript. p. 39. ID: EERE-2014-BT-TP-0014-0013.

⁸ Comment ID: EERE-2014-BT-TP-0014-0006.

⁹ 80 Fed. Reg. 10215-16.



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