May 31, 2019

By E-mail

Mr. Daniel Simmons,
Assistant Secretary, Energy Efficiency and Renewable Energy
Appliance and Equipment Standards Program
Department of Energy
Mailstop EE-5B
1000 Independence Avenue, SW
Washington, DC 20585-0121

UseCycleRFI2018TP0020@ee.doe.gov

Re: Joint Comments on DOE's Request for Information on the Measurement of Average Use Cycles or Periods of Use in DOE Test Procedures; Docket No. EERE-2018-BT-TP-0020

Dear Mr. Simmons:

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI), Air Movement and Control Association (AMCA) International Inc., American Lighting Association (ALA), Association of Home Appliance Manufacturers (AHAM), Hearth, Patio & Barbecue Association (HPBA), National Electrical Manufacturers Association (NEMA), North American Association of Food Equipment Manufacturers (NAFEM), and Plumbing Manufacturers International (PMI) (collectively, the Joint Commenters) respectfully submit the following comments to the Department of Energy (DOE) on its Request for Information on the Measurement of Average Use Cycles or Periods of Use in DOE Test Procedures; Docket No. EERE-2018-BT-TP-0020, 84 Fed. Reg., 9721 (March 18, 2019).

The Joint Commenters support DOE in its efforts to ensure a national marketplace through the Appliance Standards Program which, when done correctly, prevents a patchwork of state standards and reduces manufacturing costs. We recognize that test procedures are a critical part of the Appliance Standards Program and offer an important opportunity to ensure energy costs are accurately and consistently measured without overly burdening manufacturers. Although we appreciate DOE's inquiry into whether test procedure developments over time have inadvertently compromised the measurement of representative average use cycles and/or made some test procedures unnecessarily burdensome, we believe there are certain tenets to which DOE must

adhere in its test procedure development policy. And, of course, each test procedure must be evaluated on its own through notice and comment rulemaking before any changes can be made.[1]

The Energy and Policy and Conservation Act of 1975, as amended (EPCA) requires that new and amended test procedures be reasonably designed to produce test results that measure energy efficiency, energy use, water use, or estimated annual operating cost of covered products or equipment during a representative average use cycle or period of use. 42 U.S.C. § 6293(b)(3); 42 U.S.C. 6314(a)(2). EPCA also requires that new and amended test procedures not be unduly burdensome to conduct. *Id.* EPCA essentially requires that DOE perform a balancing act such that all of these requirements can be met by a single procedure and that no single requirement contravenes the others.

I. Test Procedures Must Be Repeatable And Reproducible.

As discussed above, test procedures must be reasonably designed to produce test results that measure energy efficiency, energy use, water use, or estimated annual operating cost of covered products or equipment. No test can be considered "reasonably designed" under EPCA if the test is not accurate, repeatable, and reproducible.

Test procedures with significant variation do not provide uniform or reliable results for the purpose of allowing consumers to make informed purchase decisions based on energy use/efficiency because the results of a highly variable test procedure are not comparable within or across brands. Moreover, test procedures with a high degree of variation do not adequately serve the purpose of demonstrating compliance with energy conservation standards because test results derived from a test that is not repeatable or reproducible are not uniform and cannot be relied upon. The results could be different from lab-to-lab, unit-to-unit, and day-to-day. Thus, not only can manufacturers not rely on such results to demonstrate compliance with standards, but DOE cannot rely on them in its enforcement efforts.

Because energy conservation standards are increasingly more stringent, minimizing test-to-test, lab-to-lab, and unit-to-unit variation and emphasizing uniform test results becomes more important. A lack of uniform results caused by a poorly drafted test procedure and/or test procedure variation means that manufacturers are likely to conservatively rate products to ensure they comply with the standards. This has three consequences. First, as standards become more stringent, it is increasingly difficult to rate conservatively. This means that the risk of non-compliance is higher, which increases costs for manufacturers. Second, because of the need to conservatively rate, standards effectively become even more stringent in practice. Third, the necessary investment in over-compliance diverts time and resources from innovation and investment in other important consumer features, undermining the careful balance EPCA requires in setting standards. Accordingly, it is critical that test procedures be repeatable and reproducible and produce accurate, uniform results.

[1] Accordingly, each Joint Commenter may also file individual comments addressing specific test procedures.

To provide accurate, uniform results to consumers and to mitigate test and compliance burden for manufacturers, test procedures must be repeatable and reproducible in order to be considered "reasonably designed" under EPCA. DOE should ensure that any test procedure changes to address consumer use do not undermine repeatability and reproducibility.

II. Establishing or Amending Representative Average Use/Cycles Requires Data.

DOE requested information on test procedures stakeholders believe could be improved to produce results that are representative of average use cycles or periods of use and are not unduly burdensome to conduct.

In order to establish or amend representative average use cycles or periods of use, DOE must have national, statistically significant, field use data (not surveys) on consumer use. Without such data, it is impossible and inappropriate for DOE to determine or change the average use/cycle in a test procedure. Existing test procedures are largely based on consumer use studies, and changing them would require some showing that something has changed with regard to consumer behavior or that more accurate data is available. Importantly, any such data should be national in scope. Behavior in one part of the country should not be an assumed proxy for the rest of the country.

It is important to note that EPCA does not contemplate test procedures that measure every possible cycle, combination of options, or use pattern. Instead, EPCA requires test procedures measure only a "representative average use cycle or period of use." This is an important distinction. Test procedures will inevitably become unduly burdensome to conduct if, in an effort to measure every possible kilowatt hour, test procedures are amended to account for every possible cycle or use pattern. DOE should be careful to focus on representative, average use cycles. Doing so satisfies EPCA's intent of allowing consumers to make purchases informed by energy efficiency/use. The goal is to allow consumers to compare like products based on representative test criteria, not to represent to consumers the exact energy use of the product under every possible condition.

Moreover, as DOE indicates in the RFI, products are continuously evolving with new features and with greater functionality. For example, DOE has inquired about the possible energy implications resulting from new features such as display screens and connectivity. These and other features are, however, in the early stages of development and consumers are only beginning to use and understand them. Consumer use and understanding of new technologies continues to evolve and to inform manufacturers' designs. As it evaluates potential changes, DOE should be mindful that it will take time before many new features, designs, and technologies lend themselves to a "representative average" consumer use. DOE should ensure that test procedures do not prematurely address new designs which may not yet have an average use. Doing so could stifle innovation.

Any potential future test procedure change or calculation approach must be informed by an understanding of the frequency with which consumers use the feature and the impact such usage has on energy. Guesses, estimations, and hunches are not enough to justify changes and any test procedure amendments made without consumer use data would not satisfy the requirements of

the Data Quality Act. Only if national, statistically significant consumer data from field studies is available, can DOE evaluate possible calculation or other approaches that do not add test burden or change the representativeness, repeatability, or reproducibility of the test.

III. DOE Must Also Consider Its Proposal To Rely on Consensus Standards.

AHAM supports DOE's proposal to amend the Process Rule to recognize as a starting point and presumptively adopt consensus and proven test procedures already in use by industry for all applicable products and equipment.[2] Assuming DOE plans to finalize that proposal in its updated Process Rule, it may not be necessary for DOE to do a sweeping evaluation of existing test procedures. Instead, DOE should rely on and participate in the consensus process.

If there are instances in which average consumer use/cycles needs to be examined, the consensus process is the best place to do so. In addition to being consistent with DOE's proposed policy to rely on such procedures, considering possible changes to consumer use as part of the consensus process also allows for the necessary time to collect necessary national, statistically significant consumer use data through field studies. As such studies can involve considerable time and cost, DOE should consider lending its expertise and funding to such activities to the extent it deems changes to average use/cycles necessary.

IV. The Joint Commenters

AHRI is the trade association representing manufacturers of heating, cooling, water heating, and refrigeration equipment. More than 300 members strong, AHRI is an internationally recognized advocate for the industry and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR and water heating industry is worth more than $44 billion. In the United States alone, the HVACR and water heating industry supports 1.3 million jobs and $256 billion in economic activity annually.

AMCA International is a not-for-profit trade association with more than 380 member companies worldwide representing more than $3 billion in annual revenue. Member companies are manufacturers of fans, dampers, louvers, air curtains, and other air-system products for commercial HVAC; industrial process; and power-generation applications. AMCA's mission is to advance the health, growth, and integrity of the air-movement-and-control industry with programs such as certified ratings, laboratory accreditation, verification of compliance, and development of international standards.

ALA is a trade association representing over 3,000 members in the residential lighting, ceiling fan and controls industries in the United States, Canada and the Caribbean. Our member

---

[2] *See* 84 Fed. Reg. 3910, at 3927 (Feb. 13, 2018) ("DOE proposes to amend the Process Rule to require adoption, without modification, of industry standards as test procedures for covered products and equipment unless such standards would be unduly burdensome to conduct or would not product test results that reflect the energy efficiency, energy use, and estimated operating costs of that equipment during a representative average use cycle.").

companies are manufacturers, manufacturers' representatives, retail showrooms and lighting designers who have the expertise to educate and serve their customers.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's more than 150 members employ tens of thousands of people in the U.S. and produce more than 95% of the household appliances shipped for sale within the U.S. The factory shipment value of these products is more than $30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

HPBA is the principal trade association representing the hearth products and barbecue industries in North America. HPBA's members include manufacturers, retailers, distributors, manufacturers' representatives, service installation firms, and other companies and individuals who have business interests related to the hearth, patio, and barbecue industries. HPBA's core purpose is to promote the welfare of the industries it serves, and one of its critical roles is to serve as an advocate representing the interests of these industries and of its individual members in matters involving the development or implementation of laws or regulations that affect them.

NEMA represents nearly 350 electrical equipment and medical imaging manufacturers that make safe, reliable, and efficient products and systems. Our combined industries account for 360,000 American jobs in more than 7,000 facilities covering every state. Our industry produces $106 billion shipments of electrical equipment and medical imaging technologies per year with $36 billion exports.

NAFEM is a trade association of more than 550 commercial foodservice equipment and supplies (E&S) manufacturers – a $13 billion industry. These businesses, their employees and the products they manufacture, support the food away from home market – which includes more than one million locations in the U.S. and countless more around the world.

PMI is the nation's leading trade association for plumbing product manufacturers. Its members produce 90 percent of the plumbing products sold in the United States and employ thousands of workers in over 70 locations in 25 states. Our member companies' plumbing products are found in the majority of homes, commercial buildings, schools, restaurants, manufacturing facilities, hospitals, and hotels across the nation. Examples of these products include, but are not limited to kitchen and bathroom faucets, toilets, showerheads, urinals, fixture fittings, sinks, whirlpools/tubs, water fountains, and waste disposal systems. PMI member companies continue to raise the bar in developing the most advanced water-efficient plumbing products.

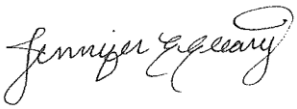
The Joint Commenters appreciate the opportunity to submit these comments on DOE'S RFI on the Measurement of Average Use Cycles or Periods of Use in DOE Test Procedures and would be glad to discuss these matters in more detail should you so request.

Respectfully Submitted,

Caroline Davidson-Hood
General Counsel
Air-Conditioning, Heating, and Refrigeration Institute

Michael Ivanovich
Senior Director, Industry Relations
AMCA International

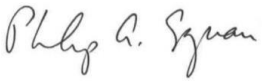
Eric Jacobson, CAE
President/CEO
American Lighting Association



Jennifer Cleary
Vice President, Regulatory Affairs
Association of Home Appliance Manufacturers

Ryan Carroll
Vice President—Government Affairs
Hearth, Patio & Barbecue Association

Charlie Souhrada, CFSP
Vice President, Regulatory & Technical Affairs
National Association of Food Equipment Manufacturers



Philip Squair
Vice President, Government Relations
National Electrical Manufacturers Association

Matt Sigler
Technical Director
Plumbing Manufacturers International