November 16, 2018

Via: https://www.regulations.gov/

Cathy Tripodi
Acting Assistant Secretary, Energy Efficiency and Renewable Energy
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: Joint Comments for DOE's Smart Products RFI; 83 Fed. Reg. 46886 (Sept. 17, 2018)

Dear Ms. Tripodi:

The Air-conditioning, Heating, and Refrigeration Institute (AHRI), Association of Home Appliance Manufacturers (AHAM), Air Movement and Controls Association (AMCA), and National Electrical Manufacturers (NEMA), (Joint Commenters) respectfully submit the following for the Department of Energy's (DOE) Request for Information (RFI) on the Emerging Smart Technology Appliance and Equipment Market; 83 Fed. Reg. 46886 (Sept. 17, 2018) (Smart Products RFI).

We thank DOE for studying the complex issues related to connected products and equipment and for seeking to ensure that DOE does not inadvertently impede innovation while fulfilling its statutory responsibilities of setting efficiency standards for covered products and equipment. Several other agencies are also considering policies related to connected products, including other parts of DOE. DOE should align its work on smart efficiency within and across Agencies. Of critical importance is that DOE does not interfere with manufacturers' ability to provide innovative, safe, secure products to consumers. DOE should also ensure that it takes a holistic view of the benefits connected products can bring and avoids regulating in the absence of sufficient data on both consumer use of these products and net systems efficiency.

AHRI is the trade association representing North American heating, ventilation, air conditioning, commercial refrigeration (HVACR), and water heating equipment manufacturers. AHRI advocates for the HVACR and water heating industry, administers a third-party certification program that verifies the performance of HVACR and water heating equipment, and publishes global industry standards.

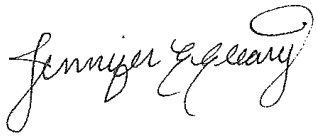
AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's more than 150 members employ tens of thousands of people in the U.S. and produce more than 95% of the household appliances shipped for sale within the U.S. The factory shipment value 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.

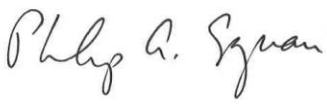
AMCA International is a not-for-profit trade association with more than 380 member companies worldwide representing more than $3 billion in annual revenue. Member companies are manufacturers of fans, dampers, louvers, air curtains, and other air-system products for commercial HVAC; industrial process; 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.

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.

We appreciate the opportunity to submit comments on DOE's Smart Products RFI and we would be glad to further discuss our comments if you so request.



Jennifer Cleary
Senior Director, Regulatory Affairs
Association of Home Appliance Manufacturers



Philip Squair
Vice President, Government Relations
National Electrical Manufacturers Association

Caroline Davidson-Hood
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Michael Ivanovich
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Joint Comments for DOE's Smart Products Request for Information

1. As members and representatives of innovative and directly involved industries we appreciate the opportunity to comment on this important topic. As the number of connected devices continues to grow and the Internet of Things (IoT) and Industrial Internet of Things (IIoT) emerge, it is important to promote not impede innovation and product development.

2. We appreciate DOE's interest in this topic and note that it will take time, coordination, learning, and interagency cooperation to address connected products, especially given the rapid pace of innovation in this area. DOE should work with industry, other agencies, the international standards community, and other stakeholders before engaging in regulatory activity related to energy efficiency.

3. Safety, security and privacy are critical for connected products and of utmost importance for our members. DOE's focus for this RFI should be on energy efficiency. To avoid redundant or inconsistent approaches, we urge the DOE to coordinate with NIST, the FTC and other relevant Agencies on security and privacy. DOE should also ensure that it does not impose a regulation that would interfere with manufacturers' ability to offer safe and secure products.

4. It appears as though DOE accepts that the power consumption of connected products is not inherently a localized issue due to these devices' communicating status and participation with and support of the network. The ability of a product to connect to the grid or the internet is itself a consumer-demanded feature. We agree that network mode must be treated separately from "standby power" or other "low power modes" that may apply to "networked devices" but not the network itself, and we appreciate and agree with the absence of the term "standby power" in the DOE's RFI text. Network mode must be treated separately from standby and other low power modes as it is in IEC Standard 62301, which we discuss further below.

5. We do not believe that regulating the measurement or energy use of connected or smart products is necessary or appropriate at this time. The connected market is still developing and regulation will disrupt ongoing innovation. New features are being tested as is consumer adoption of such features. It is not yet fully known how consumers will use connected functionality and which features will be permanently available. This means that the understanding of what is a "consumer demanded feature" is still evolving and should be allowed to do so. It is our understanding that DOE's current regulations do not apply to connected equipment in appliances that are performing a function outside its regulated function. This includes current standards for standby and off-mode electrical consumption.

6. Smart/connected technology has taken a long time to evolve and it's still continuing to do so. DOE and other agencies need to allow the market to develop and the technology to realize its potential. And this needs to be investigated at an international level, not a Federal or State level, for beneficial standards and recommended practices. We are not aware of any technologies that are ready for regulations under EPCA at this time. This determination should be reviewed on a product-specific basis as technology matures and national, statistically significant consumer-use data becomes available.

7. Connected products' energy use should not be viewed in a silo. Instead, connected products' energy use should be viewed holistically—connected/smart products offer many benefits, including energy savings, cost savings, entertainment, comfort, and electricity-grid resilience. DOE and EPA have recognized this in the ENERGY STAR

program where smart home appliances receive a 5% "credit" on efficiency and the ENERGY STAR program is just beginning research into the nature and opportunity of Smart Home Energy Management Systems (SHEMS). The American Council for an Energy Efficient Economy (ACEEE) has also estimated that "system efficiency opportunities for energy savings dwarf component-based efficiency improvements by an order of magnitude (Elliott et al., 2012). Based on the concept of intelligent efficiency, ACEEE attributes such savings mainly to enhanced performance data and control capabilities to improve the long-term operation and maintenance of systems, as well as feedback to, and engagement of, building operators and occupants."[1]

Hence, DOE's mandates under EPCA to evaluate energy efficiency must be balanced by the overall benefits of such devices. For example, a grid-connected water heater that, as part of a utility-response program, may need to be sized larger and heat stored water to temperatures higher than normal in order to both store energy on a call for demand response and provide needed capacity to the consumer when there is a call to shed load. Larger storage volumes and higher water temperatures would contribute to greater energy use overall. However, a utility can manage demand response in a manner so that the energy used by the water heater is timed when generation is either lower cost or creates less emissions, or both. While overall energy use is dependent in part on utility application, this technology can bring benefits to consumers in the form of lower total utility costs and to society in the form of reduced emissions.

8. IEC standard 62301 has a test for network mode and is often cited as a starting point for regulatory discussions, but this standard was developed at a time when few products were on the market and many could "power down" without loss of network functions because they had only one function and there was no network. Now that there are more network products available and networked operation has become a demanded feature in residential and commercial settings, the test procedures need to be revisited through appropriate international standards bodies. DOE should *participate* in that work rather than develop its own procedure(s). There may be areas where there is a particular and identifiable need to quantify the benefit of specific products or equipment. AHRI draft standard 1380P, Methods for Coordinated Energy Management in Residential Application, is one such example where an industry association is leading a group of manufacturers, regulators, and utilities in working together to evaluate the needs and benefits of this emergent area in relation to residential air conditioning

9. DOE must ensure that states do not improperly and prematurely develop regulatory requirements related to measuring or limiting energy use in network mode, thus creating a patchwork of state standards. The Joint Commenters strongly urge DOE to expressly state that per 42 U.S.C. § 6297(a), it considers measurement of network mode and regulation of energy use in network mode to be preempted. A networked covered product's energy use in any mode is preempted as a "measure of energy consumption…of a covered product…"

   DOE has already evaluated whether it is appropriate to include network mode measurement in its test procedures and determined not to do so based on a robust notice and comment process and supporting data and information. And because there is no test procedure, DOE could not include network mode in its standards requirements,

[1] Elliott, N., M. Molina, D.Trombley. 2012. "A Defining Framework for Intelligent Efficiency." ACEEE Report E125. June. http://www.aceee.org/research-report/e125

but its decision not to require measurement of network mode should extend to the standards context as well. Thus, DOE has already covered the field regarding regulation of network mode and states should not be free to reverse DOE's decision. Even though DOE is now considering the issue again, that should not give free reign to states to create a patchwork of state standards.

An express statement of preemption is needed now because at least one state is actively considering measurement of network mode as lumped together with other low power modes and eventual regulation of the energy use in those modes. The California Energy Commission (CEC) recently issued a Request for Public Comment on a Low Power Mode Test Procedure Discussion Document (CEC RFI). See CEC Docket No. 17-AAER-12. The CEC RFI indicates that CEC believes that despite the existence of an international test procedure, supplemental instructions are necessary. CEC is seeking "further information from stakeholders to develop a consensus [low power mode] test procedure, which will allow subsequent collection of the required data on the performance and energy use of products in [low power mode]."

The scope of the CEC RFI is broadly worded and could encompass Federally-regulated products unless CEC expressly excludes them. Several of the Joint Commenters commented that CEC should limit the scope to products not covered by DOE. If this rulemaking continues, California will be prematurely regulating in this area, its actions could very well be opposite of those DOE has already taken and may take in the future, and it will be taking the place of an international standards bodies without the appropriate input and standards development process. DOE must not allow this.