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March 9, 2017

Via E-Mail

Melissa Fiffer
U.S. Environmental Protection Agency
ENERGY STAR Appliance Program

appliances@energystar.gov

Re: ENERGY STAR Draft Test Method for Room Air Conditioners to Validate Demand Response

Dear Ms. Fiffer:

On behalf of the Association of Home Appliance Manufacturers (AHAM), I would like to provide our comments on the ENERGY STAR draft Test Method for Room Air Conditioners to Validate Demand Response.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. 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.

AHAM supports EPA and the Department of Energy (DOE) in their efforts to provide incentives to manufacturers, retailers, and consumers for energy efficiency improvement, as long as product performance can be maintained for the consumer. AHAM appreciates DOE's and EPA's efforts in releasing the draft version of the demand response test procedure. This will certainly act as an incentive to help jump start the market for room air conditioners with smart grid functionality and better serve the consumer and environment.

I. Receipt of Signal from Utility Equivalent Communication Device

The draft test procedure states that before running the verification tests (DAL, TALR, high temperature response, active override, etc.) on the UUT, the receipt of the signal needs to be verified. AHAM would like DOE and EPA to clarify the process verifying that the UUT has received the signal. Is this a process that is open to manufactures' interpretation and/or construction? Or are there specific guidelines in verifying the signal?

II. Test Requirements

The UUT's specific component operation (i.e., compressor or fan operation) are not expected to affect the results of the DAL test and therefore, to minimize test burden, DOE and EPA did not specify test conditions for the DAL test. The ambient conditions for the TALR test were selected to ensure continuous compressor operation at a set temperature of 85 °F, or the next increment above 85 °F. DOE and EPA specified a large tolerance on the TALR ambient temperature to minimize test burden and avoid the need for expensive chamber conditioning equipment. DOE and EPA invited stakeholder comments on the lack of specific test conditions for the DAL test and the test conditions specified for the TALR test.

AHAM agrees compressor function is not expected to affect the results of the DAL and supports the reduction of testing burden in not specifying test conditions. AHAM also agrees with a large tolerance on the TALR ambient temperature requirement. The TALR requirement can be verified as long as the compressor function is continuous. A set temperature below the ambient will ensure that.

III. Measurements

DOE and EPA invited stakeholder comments on the proposed procedure to access the UUT set temperature and potential means to avoid the accidental override of a signal response during testing.

AHAM agrees with DOE and EPA's assessment of providing only general instruction and in accordance with manufacturer's instructions. Some units employ thermistors in order to measure the ambient temperature, which may not provide an accurate reading if the fan is not running or if the air around the thermistor is stagnant. Therefore, manufacturer instructions will be crucial in determining the correct operation of the unit.

IV. Delay Appliance Load Test (DAL)

The draft test procedure requires that UUT set temperature be recorded nine times within the 4-hour DAL period. Some UUTs revert to displaying the ambient temperature on the thermostat once the user has selected the desired temperature. For these units, it will be difficult to determine the set temperature without possibly modifying it (depending on the control interface). AHAM asks DOE and EPA to clarify how to check the set temperature under these special circumstances without potential unintentional change to the temperature.

In addition, DOE and EPA have included a short 15 to 45 second allowance after verifying that the UUT complies with the received signal and before the set point is adjusted. DOE and EPA invited stakeholder comments on this delayed response time allowance and the specific measurement interval provided to ensure that the unit has time to respond to the received DAL signal.

AHAM agrees with the time allotted for the UUT to process the signal and adjust the set point.

V. Active Override

Consumer override is a key component of the Demand Response Connected Product Criteria in the current ENERGY STAR Program Requirements for Room Air Conditioners, Eligibility Criteria Version 4.0. Therefore, DOE and EPA have developed the above series of test in section 7.4 to confirm the override functionality is included and functional. DOE and EPA invited stakeholder comments on this active override test.

AHAM agrees with the test procedure outlined to verify the consumer active override criteria.

VI. Temporary Appliance Load Reduction Test (TALR)

DOE and EPA determined that the cooling mode input power is typically at least two times the input power for other modes in which the compressor is not operating. For that reason, compliance verification is based on the measured power being greater than or equal to two times the input power in air circulation mode, as determined in section 8.6.1, to establish the presence of compressor operation. DOE and EPA invited stakeholder comments on the method to determine the compressor operating status.

AHAM agrees with the test procedure outlined to determine the compressor operating status and the TALR test.

AHAM appreciates the opportunity to submit comments on the draft Test Method for Room Air Conditioners to Validate Demand Response and would be glad to further discuss these matters should you so request.

Respectfully submitted,



Charlotte Skidmore
Sr. Director Environmental & Sustainability Policy