



24 January 2014

Amanda Stevens  
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US Environmental Protection Agency  
Washington, D.C. 20460 USA

In reference to: Additional Requirements following Draft 2 of the ENERGY STAR Version 1.0 Clothes Dryer Specification Responses.

Dear Ms. Stevens:

UL, Inc is submitting comments in regards to the request for feedback that was sent on December 19<sup>th</sup> 2014 relating to the proposed addition of cycle length and reporting of the Fastest Drying Cycle.

In testing several dryers over many years, we see many variations on how cycles are designed and programmed. The statement of selecting the Fastest Drying cycle seems fairly straight forward. As a third party testing lab, we would rely on what the manufacturer states as the fastest drying cycle. Otherwise we would have to search and test various cycles to find the fastest cycle. For qualification tests, we would ask the manufacturer for their fastest test cycle and conduct the test on that cycle. For verification tests, we would need to rely on the qualification test report or what would be clearly stated on the EPA database for the cycle that was used.

The feedback on this proposal in Section 3.C would be to make sure that there is enough detail of the defined cycle placed in the EPA database. This would include the cycle used and what shows on the display for temperature and estimated cycle time. The dryness level should also be stated in the event that it had to be changed to the highest dryness level setting. The procedure does state that no other options would be changed from the as shipped position, but if there were some that need to change as affecting the energy consumption, then those options would also need to be included in the reported cycle . By having this detail, there would be less ambiguity in conducting the verification testing.

For a manufacturer to define this cycle up front for qualification, they would know the software algorithm and wattage profile for every cycle to determine the fastest drying rate. Some clarification in the procedure for this would be to define if this has to be an auto-termination cycle or if it could be a timed dry cycle.

There is one concern with the use of auto-termination cycles for measuring the energy consumption that is outside of the specific request for feedback in the letter. That concern is the run to run variation seen with the algorithm and tumbling of the clothes for the dryer to terminate the cycle. In previous experience with working on the development of these algorithms, several test runs were needed to fine tune the system. By testing just one test run on the auto-termination cycle, it is possible to have a very good efficiency or a poor efficiency from two consecutive runs. I am not

endorsing adding test burden by adding more test runs, but I see that would help to average out that variation. I do not foresee the test procedures are going to change, but I wanted just share this concern at this time.

Thank you for your consideration and I would be glad to discuss this further if desired.

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