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October 4, 2012

Via E-Mail

Amanda Stevens
U.S. Environmental Protection Agency
ENERGY STAR Appliance Program
appliances@energystar.gov

Re: **Draft 1 Version 1 0 Clothes Dryer Specification Comments**

Dear Ms. Stevens:

Hydromatic Technologies Corporation (HTC) supports the efforts of the Environmental Protection Agency (EPA) and Department of Energy (DOE) as it seeks to establish highly beneficial changes regarding its proposed Clothes Dryer Energy Star program. During the September 12th EPA Webinar and the Presentation that was provided by EPA and ICF, HTC learned that the EPA, DOE and numerous organizations are now reviewing the U.S market penetration of Condensing or European Heat Pump Dryer in the Energy Star Program, as well as the EPA's Emerging Technology Award event, while it seems our own U.S developed clothes drying technology is being overlooked and is not getting a fair review or opportunity for 3rd party Validation and subsequent commercialization. We respectfully wish to submit our comments regarding the EPA's Draft Energy Star Specification and will provide information about our technology where it is relevant and applicable.

ABOUT OUR COMPANY

Hydromatic Technologies Corporation (HTC) is a small, U.S-based, Minority-Owned Manufacturer and New Product Developer of "solution-driven" high efficiency appliance technologies that has devoted considerable "private" resources and man-hours towards the successful design, development and testing of a new and more advanced clothes drying technology that will meet and/or exceed the technical requirements of the DOE, EPA, ICF, and AHAM, as well as the needs of U.S and global consumers as it pertains to drying clothing quickly and safely while at the same time using significantly less energy.

- The Hydronic Clothes Dryer was originally invented in a garage in Kissimmee Florida and was named such because it was able to effectively dry clothes with "water". The heating system was soon improved as a self-contained Retro-fit kit and re-labeled the "DryerMiser". Along with other improvements and additional patent applications we also replaced "water" with a more efficient and proprietary Heat Transfer fluid.

- In 2005, HTC submitted an “Abstract” of our technology to the DOE’s (EERE) Building Technologies Program and after its technical review we received a DOE response that stated “the Hydronic Clothes Dryer was a market-ready prototype”.
- HTC was aided by NASA’s Space Alliance Technology Outreach Program (SATOP) which assisted the company in problem solving which subsequently led to being featured on the front page of SATOP’s Publication.
- In 2006, HTC was featured on the Front page of the Orlando Sentinel’s Business page and we received overwhelming consumer response expressing the public’s desire to learn more about the technology.
- In 2007, the “Hydronically heated Clothes Dryer” was included in the DOE’s 2011 Clothes Dryer Framework.
- In 2008, the DryerMiser Retro-fit kit was showcased at the 2008 International Builders Show during which we received over 20,000 website hits in just 48 hours..!
- In 2009, HTC submitted a clothes dryer with its installed Retro-fit Kit to Underwriters laboratories (U.L) which was considered by U.L officials as a “New and Unusual” technology, subsequent to which HTC successfully passed U.L’s Safety Testing Program and received approval and product Listing under U.L 2158 (Safety Testing for ELECTRIC Dryers).
- From 2008 to 2010, HTC conducted numerous private closed-door meetings, including high level comparative testing with two large Appliance Manufacturers and one large Illinois-based Appliance Retailer....WE WON and we kept the proof..! In fact, on every occasion HTC did out-perform the comparable dryers of much larger OEM’s while using a lower wattage heating system that ranged from 35.0% to 55% less KW input, while achieving various levels of Remaining Moisture Content ranging from -0.05 % to 4.7% RMC). While not our best, an example of one such test of our technology involved a Mixed load of 12.0 Lbs. bone dry, 18.3 Lbs. Wet which was dried in 45 Minutes with a remaining moisture content (RMC) of 3.6% while drying the load with 2,775 watts and achieving an EF of 4.3.
- HTC has successfully converted various models of electric, Gas, and Condensing dryers of; G.E, Whirlpool, Electrolux, BSH, Haier, Samsung, LG, Kenmore, Candy Hoover Group, each of which were improved significantly in energy efficiency, safety and fabric life, while one converted European Condensing dryer experienced a 20% increase in energy efficiency with a decrease in dry time of 30%. We have received dryers from OEM’s all over the world requesting that we develop a conversion kit for their dryers, but without providing incentives to do so.
- From 2010, HTC began purchasing brand new OEM dryers from several large Retailers and after installing the DryerMiser kits the company rebranded the entire dryer which is now known commercially as The SafeMate Clothes Dryer™ and is featured on our new website (www.safe-mates.com).

Hydromatic Technologies continues to welcome open dialog with major Appliance OEM’s who are seriously interested in working together to bring safer and more energy efficient clothes dryers to a global marketplace. As a small business concern, the sole reason our company exists is to provide “Beyond-the-Box” technical solutions to companies via a new but unquestionably beneficial “Heat Generation methodology” utilized to dry pre-washed articles of clothing while consuming less energy and improving consumer safety and overall benefits which aligns well with the following EPA Draft 1 Specifications.

The following comments are meant to address HTC’s position regarding the “Definitions, Scope, Minimum Dry Time, CEF, Warranty and Connected Functionality” as outlined during the Sept. 12th Webinar and proposed by the EPA’s Draft 1 Specifications:

- **Definitions:**
EPA has included definitions for several product types not covered under Version 1.0. HTC notes that the EPA has identified certain dryer “types” such as; Vented Gas, Vented Electric, Standard, Vented Electric, Compact (240 V), Vented Electric, Compact (120 V), Ventless Electric, Compact (240 V), Heat Pump and “Hybrid” Heat Pump clothes dryers. HTC understands that the EPA has sought to identify clothes drying technologies that it may including in its Scope of products. While we patiently await a phone call, email, letter, or even a carrier pigeon to contact us amid the news of “Scoping Reports”,

Million dollar Government Grants for the Development of new, advanced Clothes Dryers, and search efforts for Emerging Technology Clothes Dryer Awards, we can't help but ask...why are our efforts to receive 3rd party energy efficiency validation (required by OEM's) being passed over while others are not..? This is not meant to blame the EPA, but the EPA is currently in active mode to select dryers for its Energy Star Program and we feel that our product deserves a chance to be included. Although we have significant internet presence, a Corporate Website, television commercials and numerous publicly available articles and magazines that tell the story about our Clothes Dryer, we would like to make certain that we are not left out of the EPA's or DOE's search for advanced clothes dryers that can deliver super-efficient levels of drying Clothes.

HTC would further wish to comment on the EPA's dryer types within its Definitions of Clothes Dryers proposed to be included in the V1.0 Scope, including the identification of a "Hybrid Heat Pump Dryer, which appears to be a European Heat Pump dryer with an "add-on" Electric Resistance Heating coil or "Retro-fit heating device" meant solely as a means to reduce its objectionable dry times. HTC has seen no data that indicates that the "Hybrid" Heat Pump Dryer has been commercialized "anywhere", including within the U.S or Europe and since adding an "electric resistance" heating coil will certainly "increase" the energy consumption of a "standard Heat Pump" Dryer, HTC seeks reference data that supports the EPA's belief that even while adding a resistance heat element to a Heat Pump Dryer, a Hybrid Heat Pump Dryer can still offer even greater savings of (20-60% or more)? Does this indicate that the EPA has ascertained from "independent or accredited 3rd party validation testing sources that the Hybrid Heat Pump Dryer will actually provide these savings? If so, will the EPA reference this data given that the EPA has also stated that it ***"anticipates a range of models could be available and cost-effective at these efficiency levels starting next year" ..?***

HTC understands the importance of definitions and given that the Hydronic Clothes Dryer has already been mistakenly confused with that of another unrelated technology which is non-representative of our technology's true technical characteristics and whereas our system no longer uses "water" as a heat transfer medium, is therefore no longer appropriate to use the term...Hydronic Clothes Dryer. We have taken these steps to differentiate ourselves in one manner, while maintaining ties to our Standard industry Code (SIC). In this connection, we hereby incorporate by definition the terminology "Hybrid Electric Dryer" because our technology utilizes an immersion type "electric" resistance heat element, while incorporating a highly beneficial Hydro-carbon heat transfer fluid unlike that of a standard definition Electric Dryer. This new "definition" of our technology is more suited to its technical characterization and we hereby request the EPA and all others to refer to it as such and to include its new definition within EPA's "Definitions" as outlined in the Draft 1 Specification.

Scope:

Products meeting the "definition" of Electric or Gas Clothes Dryers are proposed to be included in the V1.0 scope.

Pursuant to our 2009 U.L 2158 Safety Testing Approval and its original designation as an "Electric" Clothes Dryer, HTC does hereby request that the EPA include the "Hybrid Electric Clothes Dryer" in its V1.0 scope.

Minimum energy efficiency requirements (CEF)

HTC supports the EPA's Minimum energy efficiency requirements relating to the Combined Energy Factor a proposed Energy Star Dryer must achieve. HTC believes that its "Hybrid Electric Clothes Dryer™" will meet and exceed the minimum levels of CEF at even greater efficiency levels when "Serial" load testing is considered as part of the energy efficiency not currently captured via existing DOE/EPA testing criteria. Accordingly, DOE's Sub-part 430B Appendix D/D1 Clothes dryer testing procedures call for the dryer's exhaust air to be "cooled down" to within one (1) degree of ambient between test loads, however given that most users of a clothes dryer will dry two or more loads in succession there is considerable "residual" heat given off by the Hybrid Electric Clothes Dryer™ that will reduce energy consumption normally lost to "Recovery". HTC would like the EPA to consider its dryer's residual heating benefits for its additional efficiencies that exceed that of "Stand-by Power" which is captured.

Maximum drying time requirement

HTC supports the EPA's Maximum drying time requirement and views the 50 minute allotment for Energy Star Dryers as adequate time in achieving proper levels of RMC. Our Hybrid Electric Clothes Dryer™ will meet this requirement and will dry appropriate real world loads within this period.

Automatic termination criteria

The EPA is proposing that dryers be equipped with automatic termination control using both moisture and temperature sensing controls (verified by product inspection and/or product documentation.

HTC believes that significant efficiencies can be achieved via Automatic termination and supports EPA's Draft 1 proposal. However there is concern over the accuracy and sensitivity of sensing components such as Thermistors and CPU's that consumers must rely upon to prevent pre-mature or excessive time termination that may create quality control problems for manufacturers and performance dissatisfaction for consumers. HTC suggests that the EPA require the use of Real World (RW) test loads during validation testing by independent test agencies to insure product integrity.

Minimum warranty requirements

Product warranties are a crucial component towards creating consumer confidence in new technologies. Although the annual "dryer cycles" have been modified from 416 cycles per year, or 8 cycles per week, HTC is pleased to acknowledge that we conducted product reliability testing of our technology in a high traffic commercial facility that placed a high demand on the Dryer resulting in approximately 12 cycles per DAY for 5 consecutive days per week and has been in use for more than a year...with NO failures of our heating system. That amounts to approximately 3120 cycles over a 12 month period or the equivalency of 7.5 years **without one single failure** of our Hybrid Electric Heating System. Therefore, HTC will offer a limited 3 year warranty on our microprocessor controls and a limited 5 year warranty on our Hybrid heat generation system.

Final Comments

Our successful development of a new and better clothes drying technology addresses the concerns of the EPA and DOE when installed in an entry-level or high-end vented and vent-less clothes dryer and has led to a clothes dryer's increased energy efficiency, the virtual elimination of a dryer's hazardous lint-ignition source, a significant increase of the fabric life of clothing and can dry a heavy load of clothing in as little as thirty-five (35) minutes while exceeding current and proposed DOE and EPA Clothes dryer requirements/specifications. We accomplish this by removing the hazardous and less energy efficient heating system(s) commonly found in today's Gas and Electric clothes dryers and replacing it with an "Improved Heat Generation technology" that:

- a. Unlike a Heat Pump Dryer, does not require a 60% longer period to dry large loads.
- b. Unlike a Heat Pump Dryer, does **NOT** require the use of hazardous government regulated Refrigerants or toxic chemicals.
- c. Unlike a Heat Pump Dryer, does not require expensive specially-trained service technicians to repair.
- d. Unlike a Heat Pump Dryer, is more than 50% less costly to manufacture.
- e. Unlike a Heat Pump Dryer will meet EPA's proposed **Maximum dry time** limits for Auto-Terminate mode (50 minutes) without adding a more hazardous electric heat element.

As a seven (7) year old corporation and Stakeholder in the appliance industry we desire to raise awareness to the EPA of our technology via the comments which are intended to address the EPA's Draft 1 Specification while emphasizing key Hydromatic positions. We would like to summarize the following:

1. Our request that the EPA include Hydromatic's "Hybrid" Electric clothes dryer and its "fluid-based" heating technology in EPA's SCOPE of products because it meets the definition of Electric or Gas Clothes Dryers pursuant to the EPA's Draft 1 Clothes Dryer specification.
2. Our request for assistance in the validation of our technology by EPA approved test agencies for its subsequent inclusion within the EPA's and DOE's current Clothes Dryer Draft 1 Specifications.
3. The consideration of our "Hybrid Electric Clothes Dryer™" as a candidate for the Energy Star Program.
4. The consideration of our "Hybrid Electric Clothes Dryer™" as a serious candidate for the 2012-2013 Emerging Technology Award.

HTC offers its thanks to the EPA for this opportunity to provide comments and will provide any additional information it may deem necessary to request. HTC also welcomes and invites U.S and European OEM's to work with us to provide an Add-On technology that will improve the performance of every major appliance makers comparable dryer, whether gas or electric in safety, energy efficiency, and fabric life and is an overall better clothes drying technology that offers lower cost, fast dry times, and ease of serviceability acceptable to U.S and Global consumers.

Humbly Submitted With Sincerest Appreciation,

Michael E. Brown
CEO and Founder
Hydromatic Technologies Corporation