

October 26, 2017

Sharon Frey  
U.S. Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

RE: ENERGY STAR® Draft 1 Versions 2.0 and 3.0 Specifications for Pool Pumps

Dear Ms. Frey,

The enclosed are the comments of the Appliance Standards Awareness Project (ASAP) and the Natural Resources Defense Council (NRDC), in response to the proposed revisions in the Draft 1 Versions 2.0 and 3.0 ENERGY STAR Pool Pump Specifications released on September 28, 2017. We appreciate the opportunity to comment.

**We stand in strong support of the U.S. Environmental Protection Agency's (EPA) ENERGY STAR program and we support EPA's efforts to update the ENERGY STAR pool pump specification.**

The ENERGY STAR program has a long history of identifying products with superior energy performance, which helps consumers and businesses save money and protect the environment. ENERGY STAR is one of the most widely recognized and well-trusted brands. Almost 85 percent of American households understand what the label means, and nearly half of all consumers purchased an ENERGY STAR labeled product in the past year.<sup>1</sup> Across the ENERGY STAR program, a \$50 million annual budget produces more than \$30 *billion* worth of annual consumer utility bill savings.<sup>2</sup>

There has been an ENERGY STAR specification for pool pumps since 2013. Given that the U.S. Department of Energy (DOE) recently finalized the first-ever national minimum efficiency standards for pool pumps, along with an accompanying test procedure, we concur with EPA that the time is ripe for an update to the ENERGY STAR specification.

**We support the definitions specified in Draft 1 Versions 2.0 and 3.0.**

EPA proposes to adopt the definitions used by DOE's Energy Conservation Standards for Dedicated-Purpose Pool Pumps<sup>3</sup> for the following terms: Pressure Cleaner Booster Pumps, Self-Priming, Non-Self-Priming, Hydraulic Horsepower (hhp), Weighted Energy Factor (WEF), High Flow Measurement Point, and Low Flow Measurement Point. EPA also proposes to switch ENERGY STAR's terminology for pump types, from Inground Pumps to Self-Priming Pumps, and from Aboveground Pumps to Non-Self-Priming Pumps. Our organizations were both represented on the Dedicated-Purpose Pool Pump (DPPP) Working Group that developed the DOE definitions and standards. As such, we strongly support ENERGY STAR's alignment with these definitions and terms.

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<sup>1</sup> [https://www.energystar.gov/sites/default/files/asset/document/PowerOfTheBrand\\_2017.pdf](https://www.energystar.gov/sites/default/files/asset/document/PowerOfTheBrand_2017.pdf)

<sup>2</sup> [https://www.energystar.gov/about/origins\\_mission/energy\\_star\\_numbers](https://www.energystar.gov/about/origins_mission/energy_star_numbers)

<sup>3</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0109>

**We support the simultaneous development of Versions 2.0 and 3.0.**

ENERGY STAR Version 2.0 will take effect as soon as it is finalized, and Version 3.0 will take effect at the same time the federal standard takes effect in July 2021. The simultaneous development of two Versions is a good use of EPA resources, and is a sensible approach in this case since the release of Version 3.0 is linked with the release of a new federal efficiency standard. Further, the development of Version 3.0 will allow manufacturers to plan for both the federal standard and the Version 3.0 specification concurrently.

**We support the inclusion of non-self-priming pumps and pressure cleaner booster pumps.**

The current ENERGY STAR specification applies only to inground (i.e. self-priming) pool pumps. We agree with EPA that aboveground (i.e. non-self-priming) pool pumps and pressure cleaner booster pumps offer significant potential for cost-effective savings. DOE estimates that shipments of non-self-priming pumps and pressure cleaner booster pumps will be 450,000 and 140,000, respectively, in 2021,<sup>4</sup> and per-unit electricity use of baseline products is 2-3 times that of an average new refrigerator.<sup>5</sup> EPA estimates that including these additional pump types could save consumers up to \$75 million and \$8.3 million per year for non-self-priming pumps and pressure cleaner booster pumps, respectively.<sup>6</sup>

**We encourage EPA to consider a level for Version 2.0 for large self-priming pumps equivalent to the 2021 standard.**

EPA has proposed a level for Version 2.0 for large self-priming pumps equivalent to 10% below the 2021 standard. We recognize the importance of ensuring sufficient product availability across the range of pump sizes. However, we understand that EPA's analysis to estimate WEF scores of existing products may be conservative, thus underestimating the number of products already meeting the 2021 standard. As shown in the figure below,<sup>7</sup> Efficiency Level 6 in the DOE analysis (which is equivalent to the 2021 standard) was selected such that all current variable-speed pumps would comply. Further, DOE's analysis shows that there are pumps across the full range of sizes that already meet the 2021 standard.

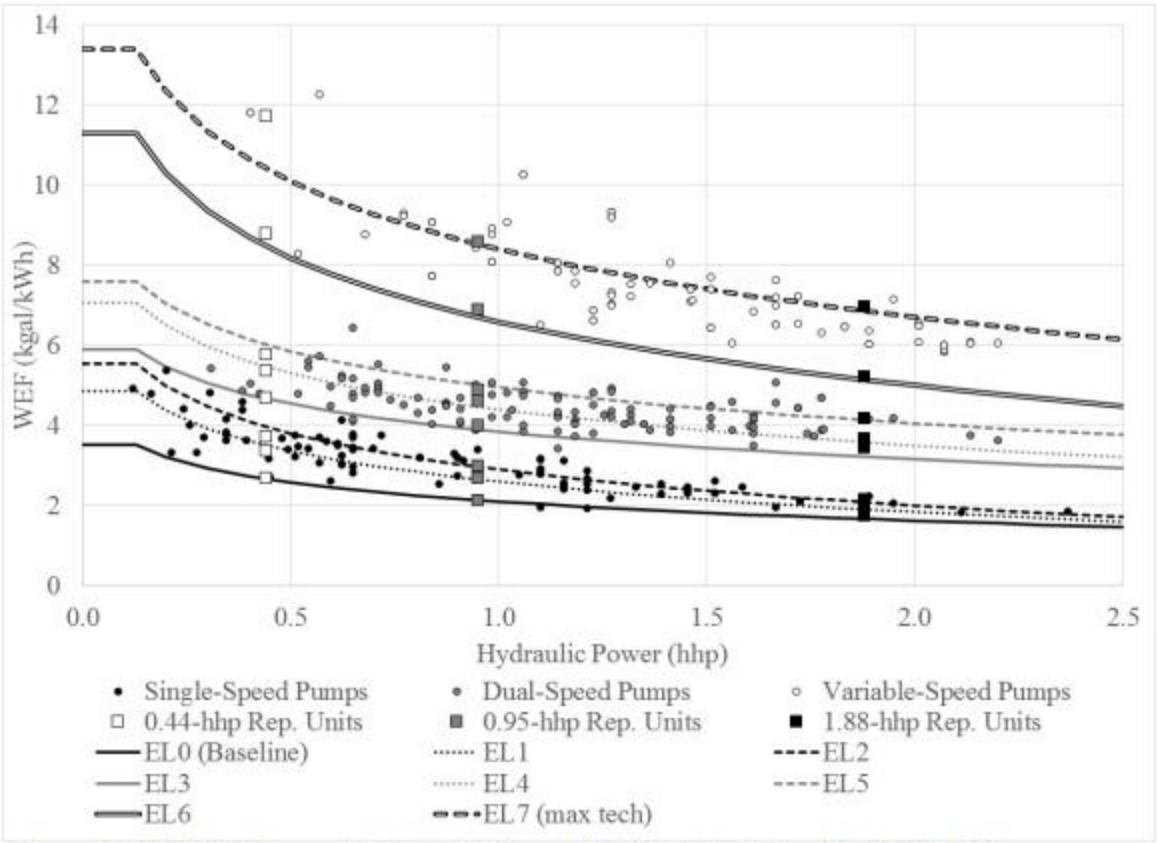
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<sup>4</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. p. 9-6

<sup>5</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. pp. 7-19, 7-21; [http://appliance-standards.org/sites/default/files/refrigerator\\_graph\\_Nov\\_2016.pdf](http://appliance-standards.org/sites/default/files/refrigerator_graph_Nov_2016.pdf)

<sup>6</sup> <https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Pool%20Pumps%20V2V3%20Draft%20%20Specification.pdf>. p. 6

<sup>7</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. p. 5-39



**Figure 5.6.2 WEF versus Hydraulic Power for Self-Priming Pool Filter Pumps, Representative Units, and Efficiency Levels**

**The remaining proposed levels for both Version 2.0 and Version 3.0 offer meaningful energy savings while ensuring sufficient product availability.**

EPA has proposed a level for the Version 3.0 specification for self-priming pumps equivalent to DOE’s Efficiency Level 7, which reflects a pump with a variable-speed motor and high hydraulic efficiency. Comparatively, the federal standard level for large self-priming pumps is equivalent to a pump with a variable-speed motor and low hydraulic efficiency. As shown in the figure above, DOE’s analysis shows that there are already a significant number of products that meet Efficiency Level 7. Further, setting this specification now will encourage manufacturers to introduce more-efficient hydraulic and motor designs, which will ultimately yield savings for consumers.

EPA estimates that the proposed specification for non-self-priming pumps (which is consistent for both Version 2.0 and Version 3.0) represents 4% of the standard size pumps and 33% of the extra-small pumps.<sup>8</sup> The proposed levels would provide significant cost-effective savings and encourage the adoption of more-efficient two-speed and variable-speed products.

<sup>8</sup><https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Pool%20Pumps%20V2V3%20Draft%201%20Specification.pdf>. p. 9

For pressure-cleaner booster pumps, EPA is proposing a level for Version 2.0 equivalent to a pump with an efficient single-speed motor. The proposed Version 3.0 level is equivalent to a pump with a variable-speed motor. Pressure-cleaner booster pumps are most popular in certain regions of the country, particularly in Northern California and the Southwest, where they represent a potentially significant source of energy consumption. ENERGY STAR levels for this equipment will help those customers determine which models meet their needs and use less energy in the short run, while giving the market time to adjust to a variable-speed level by 2021. As EPA notes, variable-speed pressure-cleaner booster pumps can save a significant amount of energy by avoiding the need to use a flow restrictor, and the Version 3.0 specification can help shift the market to this more-efficient technology.

**We encourage EPA to consider adopting the freeze protection requirements included in the DOE standards.**

The 2021 standards include requirements for pool pumps with freeze protection controls in order to reduce unnecessary energy waste associated with freeze protection. In particular, the standards specify that the pump must either be shipped with the freeze protection disabled or meet specific requirements for the default, user-adjustable settings.<sup>9</sup> We encourage EPA to consider adopting these same requirements as part of the Version 2.0 specification, which would provide additional savings in advance of the 2021 standards.

**We support the development of ENERGY STAR specifications for replacement motors.**

EPA indicates that they intend to set ENERGY STAR specifications for replacement motors, once they have sufficient data to do so. There was significant discussion during the DOE-led DPPP Working Group meetings about how to handle pool pump replacement motors. As EPA notes, the forthcoming federal standard covers only new pool pumps, and the motor is often replaced before the pump is replaced.

We have supported efforts in California to establish efficiency standards for replacement DPPP motors. We are also committed to continuing to work collaboratively with pool pump and motor manufacturers and other stakeholders to develop a national standard for replacement pool pump motors, and likewise support an ENERGY STAR specification.

**The changes EPA proposes to the connected criteria are reasonable and should not negatively impact demand response functionality.**

Pool pumps are an important source of demand response capability for utilities in many areas of the country, including pool-heavy locations like Florida. The minor changes proposed by EPA should not have a negative effect on the ability of this equipment to continue offering demand response benefits.

Thank you for considering these comments.


Sincerely,

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<sup>9</sup> 10 C.F.R. 431.465(h).



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