UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

**OFFICE OF AIR AND RADIATION**

September 28, 2017

Dear ENERGY STAR® Pool Pump Brand Owner or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the attached Draft 1 Versions 2.0 and 3.0 ENERGY STAR Pool Pumps specification. EPA will hold a stakeholder webinar on October 11, 2017 to discuss the Draft 1 specification in greater detail. Stakeholders are encouraged to submit comments on this draft proposal to EPA no later than October 26, 2017.

Since EPA finalized the Version 1.0 Pool Pumps specification in 2014, the pool pump market has advanced considerably, offering consumers a wider variety of efficient pumps at prices that are more affordable than in the past. Additionally, the U.S. Department of Energy (DOE) has issued minimum efficiency standards for pool pumps (US DOE Energy Conservation Standards for Dedicated Purpose Pool Pumps, Final Rule, 82 FR 5650, IV.A.1.b) with a compliance date of July 19, 2021, and a new test procedure (US DOE Energy Conservation Program: Test Procedure for Dedicated-Purpose Pool Pumps, Final Rule 82 FR 36858) intended to be used for representations of efficiency on and after February 5, 2018.

In light of these developments, EPA is proposing an ENERGY STAR specification revision effective in 2018 that reflects current advances (and metrics) in the pool pump market (Version 2.0) and a subsequent revision, aligned with the timing of new minimum efficiency standards, that ensures ENERGY STAR continues to deliver savings beyond the standard (Version 3.0) after 2021.

## Proposed changes

The following are significant changes that EPA is proposing for Pool Pumps Versions 2.0 and 3.0.

### Definitions

EPA proposes adding the following definitions to Pool Pump Specification Versions 2.0 and 3.0 that are used by DOE's Energy Conservation Standards for Dedicated Purpose Pool Pumps (82 FR 5650) to align with the new DOE Energy Conservation Standard: 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. Additionally, EPA is adding a definition for Pool Pump Replacement Motor.

EPA proposes using DOE definitions for pump types, switching terminology from Inground Pumps to Self-Priming Pumps, and Aboveground Pumps to Non-Self-Priming Pumps. In most cases, this change will be straightforward, since Inground Pool Pumps are almost exclusively Self-Priming, and Aboveground Pool Pumps are almost exclusively Non-Self-Priming.

Scope

EPA proposes including non-self-priming (aboveground) pool pumps and pressure cleaner booster pumps in the Version 2.0 (and Version 3.0) scope. They are included in the DOE test method, offer significant energy savings, and the ENERGY STAR label could be influential in guiding consumers toward an exclusive subset of products that will save them money.

EPA also proposes increasing the scope for Versions 2.0 and 3.0 to include self-priming (inground) pumps with >0 hhp and ≤2.5 hhp to harmonize with the DOE test method and final rule.

When pool pumps fail, a substantial percent of them are repaired with replacement motors, rather than replaced entirely. DOE proposed a test method (US DOE, Test Procedure for Dedicated Purpose Pool Pumps, 82 FR 36858) for these motors, which are designed specifically for pool pumps, but as of yet has not finalized the test method or set standards for them. Replacement motors offer substantial cost-effective savings and EPA would like to include them in this specification based on the test method proposed by DOE, but lacks energy performance data needed to do so. EPA requests data on the energy efficiency performance of replacement motors so that they can be added to the scope.

Eligibility Requirements

For each pump category, EPA found a level that balances energy savings, increased cost, and availability of certified products to offer consumers a choice of cost effective products. EPA proposes relying on DOE's new metric, weighted efficiency factor (WEF), and the new test method for ENERGY STAR Version 2.0 and Version 3.0 specifications. New requirements are proposed for products currently in scope in terms of the new WEF metric. These requirements represent a substantial increase in efficiency, based on the availability of cost effective, more highly efficient pumps, according to EPA's analysis of the TSD and of information on currently certified pumps.

EPA's analysis of the currently ENERGY STAR certified pool pumps demonstrates that there will be pumps available in a variety of sizes that meet ENERGY STAR requirements. At the Version 2.0 levels, large Inground Pool Pumps that meet the proposed requirements will provide payback between 0.9 and 1.2 years to consumers. This level distinguishes pumps with exceptional performance while ensuring certified products are availability now in a variety of sizes. For small inground pumps, the proposed level provides strong differentiation of highly efficient pumps, while ensuring products are available in a variety of sizes with a payback of 3.6 years to consumers.

EPA also proposes levels for products proposed to be added to the scope (see above Definitions section). These levels are based on information in the DOE TSD, and EPA welcomes any additional data to inform our proposals.

The requirements proposed for Version 3.0 represent an increase over the minimum efficiency standards that EPA anticipates will be reflective of top performers in the market at that time. The technical nature of the efficiency improvements available for pool pumps and the typically slow turnover of pool pump models, leads us to believe it is possible to successfully establish out year requirements in this case.

Connected Functionality

Draft 1 includes relatively minor changes and clarifications to the optional connected criteria for connected pool pump systems (CPPS).

- Real time power reporting replaces (or in addition to) interval energy consumption reporting.
- Clarified Demand Response (DR) status reporting, now including override status.
- Reduced maximum response time requirement based on lab results of prototype CPPS. This response time still excludes network latency, and may be extended for safety or product longevity reasons.

- Revised language requires the CPPS to support DR event override for each DR type, but does not prevent qualified products from participating in utility DR programs that include non-over-rideable events. The language is also intended to preclude "set-and-forget" override.

Reporting Requirements

EPA proposes eliminating the reporting requirements for Curves A and B. Given the availability of a Federal test method and new metric for pool pumps, EPA does not anticipate using this additional information.

**Stakeholder Meeting**

EPA plans to host a stakeholder webinar meeting on October 11, 2017 at 2:00 pm – 4:00 p.m. EDT to discuss Draft 1 and address stakeholder comments and questions. If you would like to participate, please register prior to the webinar here. Stakeholders are encouraged to inform EPA of any industry events that may conflict with this proposed date.

**Submitting Comments**

Stakeholders are encouraged to provide written comments and replacement pump efficiency data for EPA consideration to PoolPumps@energystar.gov by October 26, 2017. All comments will be posted to the ENERGY STAR Product Development website unless the submitter requests otherwise.

To track EPA's progress in revising the ENERGY STAR Pool Pumps specification, visit the Product Development website at www.energystar.gov/revisedspecs and click on the Pool Pumps "Version 2.0 is in development" link.

Please direct any questions to either Sharon Frey, EPA; frey.sharon@epa.gov (202-566-1480) or Abigail Daken, EPA; daken.abigail@epa.gov (202-343-9375) and Dan Baldewicz, ICF; dan.baldewicz@icf.com (518-452-6426). Please direct questions about DOE's standards and test procedures to Ashley Armstrong at DOE, ashley.armstrong@ee.doe.gov (202-586-6590).

Thank you for taking the time to review this draft specification. We look forward to working with you to develop this specification.

Sincerely,

Sharon Frey

ENERGY STAR Program