

## Appliance Standards Awareness Project

May 8, 2017

Mr. John Cymbalsky  
U.S. Department of Energy  
Office of Energy Efficiency and Renewable Energy  
Building Technologies Office, EE-5B.  
1000 Independence Ave. SW  
Washington, DC 20585

**RE: Docket Number EERE–2015–BT–STD–0008/RIN 1904–AD52: Direct Final Rule for Energy Conservation Standards for Dedicated-Purpose Pool Pumps**

Dear Mr. Cymbalsky:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) on the direct final rule (DFR) for energy conservation standards for dedicated-purpose pool pumps. 82 Fed. Reg. 5650 (January 18, 2017). We appreciate the opportunity to provide input to the Department.

ASAP is a coalition that includes representatives of efficiency, consumer and environmental groups, utility companies, state government agencies, and others. Working together, the ASAP coalition seeks to advance cost-effective standards at the national and state levels through technical and policy advocacy and through outreach and education.

**We strongly support the DFR for dedicated-purpose pool pumps (DPPPs).** We participated in the Appliance Standards and Rulemaking Advisory Committee (ASRAC) working group that recommended the consensus-based standards included in the DFR. The DPPP standards will yield large energy savings for the nation, protect consumers from energy-wasteful products, and provide regulatory certainty for manufacturers. DOE estimates that the standards will save 3.8 quads of energy over 30 years of sales, which is equivalent to about 4% of total US annual energy use,<sup>1</sup> and net savings of \$11-24 billion for consumers.<sup>2</sup> DOE also estimates that the standards will decrease the energy use of DPPPs over the same period by 61% relative to the energy use of this equipment absent standards.

**The DPPP standards will provide very large pocketbook savings for consumers and have payback periods of less than one year.** A typical pool pump can use up to 6,000 kWh per year,<sup>3</sup> which is more than half the annual electricity consumption of an average US home.<sup>4</sup> For standard-size self-priming pool filter pumps, which are the typical pumps used in in-ground pools, the new standards will reduce energy use by about 70% relative to the least-efficient

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<sup>1</sup> Total US primary energy use in 2016 was 97.4 quads. <https://www.eia.gov/todayinenergy/detail.php?id=30652>.

<sup>2</sup> 82 Fed. Reg. 5653.

<sup>3</sup> Technical Support Document. <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. p. 7-17.

<sup>4</sup> <https://www.eia.gov/tools/faqs/faq.php?id=97&t=3>.

pumps available today.<sup>5</sup> DOE estimates that consumers will save more than \$2,000 over the life of a standard-size self-priming pool filter pump.<sup>6</sup> For all types of DPPP, the payback periods of the standards in the DFR are less than one year. For example, the payback period for standard-size self-priming pool filter pumps is about 8 months,<sup>7</sup> while these pumps last for 7 years on average.<sup>8</sup> In other words, consumers will recover the incremental cost of more-efficient standard-size self-priming pool filter pumps in less than one year, and will then accrue savings for another 6 years on average. All types of DPPP have an average lifetime of at least 4 years, which means that consumers will accrue savings for at least 3 years on average after recovering the incremental cost of the more-efficient pump.

**The standards in the DFR are consensus-based and were developed with significant input from diverse stakeholders over several years.** In 2014, an ASRAC working group for commercial and industrial pumps reached consensus on a term sheet that included a recommendation that DOE initiate a separate rulemaking for DPPP.<sup>9</sup> In May 2015, DOE initiated the DPPP rulemaking with the publication of a request for information (RFI). As DOE notes in the DFR, in response to the RFI a number of stakeholders including the Association of Pool and Spa Professionals (APSP), the Hydraulic Institute (HI), and the California Investor-Owned Utilities requested that DOE pursue a negotiated rulemaking for DPPP, and in August 2015, DOE published a notice of intent to establish a working group.<sup>10</sup> The standards in the DFR are based on a recommendation from the working group, which included representatives of pool pump and motor manufacturers, efficiency proponents, utilities, state government, and DOE. The working group met in person during four sets of meetings between September 2015 and December 2015 to discuss scope, metrics, and test procedures, and approved a term sheet including recommendations regarding these items in December 2015.<sup>11</sup> The working group subsequently met in person for four additional sets of meetings between March 2016 and June 2016 to negotiate standard levels, and reached consensus in June 2016.

A comment from the American Action Forum (AAF) on the DFR characterizes the DFR process as “peculiar” and “expedited.”<sup>12</sup> However, DOE has used the DFR process on at least eight occasions to implement consensus-based negotiated standards. For example, DOE used the DFR process to update standards for clothes dryers, room air conditioners, clothes washers, and dishwashers in 2011 and 2012 based on negotiated agreements. More recently, DOE has issued DFRs for commercial air conditioners and heat pumps, miscellaneous refrigeration products, and central air conditioners and heat pumps following the successful conclusion of ASRAC working group negotiations for each of these products. Further, as noted above, the rulemaking for DPPP was initiated two years ago, and all the working group meetings were open to the public. Finally, the comment period on the DFR and the accompanying NOPR is 110 days, which is almost

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<sup>5</sup> Technical Support Document. <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. pp. 7-16, 7-17.

<sup>6</sup> 82 Fed. Reg. 5652.

<sup>7</sup> DOE found the payback period of standard-size self-priming pool filter pumps to be 0.7 years.

<sup>8</sup> 82 Fed. Reg. 5702.

<sup>9</sup> <https://www.regulations.gov/document?D=EERE-2013-BT-NOC-0039-0092>.

<sup>10</sup> 82 Fed. Reg. 5657.

<sup>11</sup> 82 Fed. Reg. 5658.

<sup>12</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0113>.

twice as long as the typical NOPR comment period. Therefore, the process for establishing DPPP standards is neither peculiar nor expedited.

The AAF comments also assert that the DFR process contravenes the administration's January 20, 2017 "Regulatory Freeze Pending Review" memo. In relevant part, that memo directed agencies to delay the effective date of published rules for 60 days so that newly appointed leadership could review those rules. However, this DFR was already open to review during that span because the DFR comment period extended until May 8. The new administration has had more time to review this DFR than was provided by the Regulatory Freeze memo.

**The comments from Intermatic appear to reflect a misunderstanding of the DFR.** The comments from Intermatic assert that the DFR includes "the requirement that pumps be sold in commerce with integral controls."<sup>13</sup> However, the DFR includes no such requirement. The DFR establishes minimum weighted energy factor (WEF) levels for four types of DPPPs.<sup>14</sup> The standards for small-size self-priming pool filter pumps, non-self-priming pool filter pumps, and pressure cleaner booster pumps are based on efficiency levels that can be met with single-speed pumps, which are typically operated with external timeclocks.<sup>15</sup> The standards for standard-size self-priming pool filter pumps reflect efficiency levels equivalent to variable-speed pumps, which do require controls in order to vary the speed. However, the definition for "variable-speed dedicated-purpose pool pump" recommended by the working group and adopted by DOE in the test procedures final rule allows manufacturers to sell variable-speed pumps without integral controls that can still meet the standard.

Specifically, in order to be tested as a variable-speed pump, a pump must include a variable-speed drive and "be distributed in commerce either: (1) With a user interface that changes the speed in response to pre-programmed user preferences and allows the user to select the duration of each speed and/or the on/off times; or (2) Without a user interface that changes the speed in response to pre-programmed user preferences and allows the user to select the duration of each speed and/or the on/off times, but is unable to operate without the presence of a user interface."<sup>16</sup> During the working group meetings there was significant discussion around this definition for variable-speed pumps. The definition ultimately recommended by the working group and adopted by DOE does two important things: (1) it helps ensure that the huge savings from variable-speed pumps will be realized in the field; and (2) it accommodates the fact that pumps are sometimes controlled by third-party controllers or pool automation systems.

The structure of the definition for variable-speed pumps avoids the large potential loophole that could result if pumps tested as variable-speed pumps could be operated without any controller (i.e. user interface). A variable-speed pump without a controller is no more efficient than a single-speed pump. The definition for variable-speed pumps ensures that a pump tested and certified as a variable-speed pump will include a controller either as shipped or once installed in the field (since the pump cannot operate without a controller). At the same time, the definition

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<sup>13</sup> <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0117>.

<sup>14</sup> 82 Fed. Reg. 5651-52.

<sup>15</sup> 82 Fed. Reg. 5684. Table IV-8. TSL 3 is equivalent to EL 2 for small-size self-priming pool filter pumps and EL 1 for non-self-priming pool filter pumps and pressure cleaner booster pumps.

<sup>16</sup> [https://energy.gov/sites/prod/files/2016/12/f34/DPPP\\_TP\\_Final\\_Rule.pdf](https://energy.gov/sites/prod/files/2016/12/f34/DPPP_TP_Final_Rule.pdf), p. 244.

provides important market flexibility as it does not require that the controller (i.e. user interface) be integral to the pump or even be shipped with the pump. This flexibility will allow consumers to continue to have the option to use third-party controllers or pool automation systems to control variable-speed pumps. For example, a homeowner who already has a pool automation system could purchase a variable-speed pump without a user interface and use their pool automation system to control the pump. Similarly, third-party suppliers of controllers and pool automatic systems will continue to be able to sell their systems to control variable-speed pumps.

Intermatic's comments also request "that a practical method for determining pool pump efficiency for applications using independent controls be established before finalizing the rule." However, no such method is necessary for the DFR to be implemented nor for third-party control manufacturers to continue to sell their products. The test procedure adopted by DOE provides a method to test and rate pumps that meet the definition of "variable-speed dedicated-purpose pool pump" regardless of whether the pump includes a controller (i.e. user interface). No further testing or certification is required once a pump is distributed in commerce, even in cases where a third-party controller or pool automation system is ultimately used to control the pump.

Intermatic's comments also request the removal of the requirement that integral sand filter and integral cartridge filter pool pumps be distributed in commerce with a timer that is either integral to the pump or a separate component shipped with the pump. The standards for integral sand filter and integral cartridge filter pool pumps represent a simple, low-cost way to achieve significant energy savings and electricity bill savings for consumers. Integral sand filter and integral cartridge filter pumps are used with storable pools (e.g. inflatable pools). While storable pools are intended for temporary or seasonal use, without a timer the pump typically operates 12 hours a day,<sup>17</sup> which results in significant wasted energy consumption. For example, DOE found that typical integral cartridge filter pumps can consume as much as 900 kWh per year, while with a timer the energy consumption can be cut by more than half.<sup>18</sup> DOE's analysis found that a timer costs just \$12, and will save consumers \$39 and \$25 on average for sand filter and cartridge filter pumps, respectively, in just one year.<sup>19</sup> Further, the timer required for integral sand filter and integral cartridge filter pool pumps could be manufactured either by the pump manufacturer or by a third party.

**We encourage DOE to work with stakeholders to develop standards for replacement motors for DPPPs to complement the standards in the DFR.** The working group meetings included discussions regarding replacement pool pump motors, and we understand that there is general consensus among stakeholders that standards for replacement DPPP motors would be a useful complement to the standards in the DFR. In particular, since the standards for standard-size self-priming pool filter pumps are based on efficiency levels achieved by variable-speed pumps, complementary standards for replacement motors for these pumps would help protect the savings from the DFR by ensuring that the efficiency of replacement motors is similar to that of motors included as part of new pumps. The DPPP test procedures final rule includes an optional

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<sup>17</sup> 82 Fed. Reg. 5698.

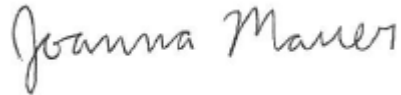
<sup>18</sup> Technical Support Document. <https://www.regulations.gov/document?D=EERE-2015-BT-STD-0008-0105>. p. 7-21.

<sup>19</sup> 82 Fed. Reg. 5718-19. Tables V-14 and V-16.

method for determining a WEF rating for replacement DPPP motors,<sup>20</sup> which would provide a good basis for a standard for replacement motors. We are committed to continuing to work collaboratively with pool pump and motor manufacturers and other stakeholders to develop a standard for replacement DPPP motors.

Thank you for considering these comments. Please do not hesitate to contact me with any questions at (505) 508-2910 or [jmauer@standardsasap.org](mailto:jmauer@standardsasap.org).

Sincerely,

A handwritten signature in cursive script that reads "Joanna Mauer".

Joanna Mauer  
Technical Advocacy Manager  
Appliance Standards Awareness Project

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<sup>20</sup> [https://energy.gov/sites/prod/files/2016/12/f34/DPPP\\_TP\\_Final\\_Rule.pdf](https://energy.gov/sites/prod/files/2016/12/f34/DPPP_TP_Final_Rule.pdf).