Appliance Standards Awareness Project
Natural Resources Defense Council

July 1, 2021

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

RE: Docket Number EERE–2020–BT–TP–0032: Request for Information for Test Procedures for Commercial & Industrial Pumps

Dear Mr. Dommu:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) and Natural Resources Defense Council (NRDC) on the request for information (RFI) for test procedures for commercial & industrial pumps. 86 Fed. Reg. 20075 (April 16, 2021). We appreciate the opportunity to provide input to the Department.

We encourage DOE to expand the scope of the test procedure to cover additional pump types used in clean water applications. As DOE describes in the RFI, the current test procedure for commercial & industrial pumps applies to five categories of clean water pumps with specific characteristics.[1] However, there are additional categories of pumps used in clean water applications that are not currently covered by the test procedure. Expanding the scope of the test procedure to additional pump types will ensure that purchasers of these pumps have access to consistent information about pump efficiency. Furthermore, we understand that, at least in some cases, pumps not covered by the current DOE test procedure can serve the same applications as covered pumps. Including additional clean water pumps in the scope of the DOE test procedure will thus help provide a level playing field for manufacturers.

In evaluating potential additional categories of clean water pumps, we encourage DOE to consider the following pump types:

- Double suction pumps: We understand that most double suction pumps are BB1[2] pumps and that many of these are used in clean water applications—in particular, in chilled water systems[3]—and are often below 200 HP.[4]
- Multi-stage end-suction pumps: We understand that multi-stage end-suction pumps are designated by ANSI/HI as OH1j, OH7j, and OH13j pumps and that these are typically used in pressure boosting and other clean water applications.[5]

[1] 86 Fed. Reg. 20078.
[2] As designated by the ANSI/HI classification.
[3] See, for example: https://documentlibrary.xylemappliedwater.com/wp-content/blogs.dir/22/files/2019/01/B-320A-Series-e-HSC-Brochure.pdf?_ga=2.247253575.2146718028.1624474510-16139006.1619025573.
[4] 200 HP is the current upper horsepower limit of the scope of the DOE test procedure.
[5] See, for example: https://product-selection.grundfos.com/products/cm-cme/cm?tab=models.

- Vertical turbine pumps: The current DOE test procedure covers submersible vertical turbine (VS0) pumps but does not apply to other types of vertical turbine pumps. We understand that vertical turbine pumps can be used in clean water applications such as irrigation and cooling towers.[6] DOE noted in the 2013 Framework Document that Mexico has standards for vertical turbine pumps for pumping clean water.[7]
- 1,200 rpm pumps: For pumps sold with induction motors, the current DOE test procedure covers 2-pole (3,600 rpm nominal speed) and 4-pole (1,800 rpm) motors, but it excludes 6-pole (1,200 rpm) motors. Pumps sold with 6-pole motors thus cannot be rated using the pump energy index (PEI) metric even though the same pump may be rated with a 2-pole or 4-pole motor.[8] We understand that it is not uncommon for pumps to be sold with 6-pole motors.

We also encourage DOE to expand the scope of the test procedure to cover small vertical in-line (SVIL) pumps as recommended by the circulator pumps working group.[9]

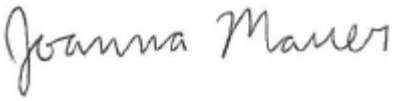
We encourage DOE to consider how the test procedure could facilitate greater market adoption of wastewater pumps with variable-speed drives. Wastewater pumps are not currently covered by the DOE test procedure. We understand that wastewater flows vary significantly over time and that typical wastewater pumps operate in an on-off mode.[10] We further understand that, as with clean water pumps, large energy savings can be achieved by adding variable-speed drives to wastewater pumps. Specifically, compared to a single-speed pump operating in an on-off mode, a variable-speed pump could provide significant savings by operating for a longer period at a lower speed due to the cubic relationship between speed and power.

For clean water pumps, the current DOE test procedure captures the energy-saving benefits of variable-speed drives, and the PEI metric provides a tool for utility programs to incentivize pumps sold with variable-speed drives. We encourage DOE to consider how the test procedure could similarly help facilitate greater market adoption of wastewater pumps sold with variable-speed drives.

Thank you for considering these comments.

Sincerely,

[6] See, for example: https://documentlibrary.xylemappliedwater.com/wp-content/blogs.dir/22/files/2012/07/b-710a.pdf?_ga=2.155090552.1576987802.1624552486-657308868.1624381122; https://www.pentair.com/content/dam/extranet/nam/fairbanks-nijhuis/brochures/vertical-turbine-pump-brochure.pdf.
[7] https://www.regulations.gov/document/EERE-2011-BT-STD-0031-0013. p. 16.
[8] See, for example: https://www.xylem.com/siteassets/brand/bell-amp-gossett/resources/curve/b-261j.pdf.
[9] 86 Fed. Reg. 20079.
[10] https://www.xylem.com/siteassets/brand/flygt/flygt-resources/flygt-resources/variable-speed-wastewater-pumping-1894.pdf.



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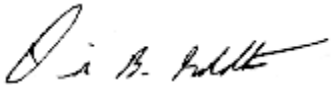

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