



June 16, 2023

**Timeline and Overview of Pool & Hot Tub Alliance Outreach and Action on
Department of Energy's Dedicated Purpose Pool Pump Motor Rulemaking**

Background

Industry participated in a Department of Energy (DOE) ASRAC working group to develop a dedicated purpose pool pump (DPPP) rule, which was published on January 18, 2017. Industry explained to DOE from the onset of the ASRAC working group that a corresponding DPPP Motor rule would also be needed; otherwise, a consumer could unknowingly have a nonefficient replacement motor installed years later and the massive energy savings associated with the DPPP rule would be wiped out. By only regulating the pump, it was ½ a rule. In May 2017 PHTA reached out to DOE to raise concerns about the DPPP motor loophole, and multiple stakeholders commented to DOE on the DPPP Direct Final Rule supporting and requesting a complementary motor standard.

On August 10, 2017, DOE held a public meeting to gather data and information that could lead to the consideration of energy conservation standards for replacement pool pump motors. Between December 2017-June 2018 private negotiations between pool pump and motor manufacturers and energy efficiency advocates occurred. These negotiations resulted in the August 14, 2018, Joint Stakeholder Proposal for Energy Conservation Standards for Dedicated-Purpose Pool Pump Motors (joint petition). That led to 30 comments being filed in support of the joint petition, in response to the DOE Notice of Request for a Direct Final Rule, with zero comments in opposition.

Industry subsequently met with DOE five times between December 2018 and February 2020, to inquire on the status, provide additional information, and consider alternate approaches with the goal of DOE issuing a federal regulation for DPPP motors that would align with the existing DPPP regulation. This included aligning both the pump and motor rules' compliance date (July 19, 2021) to avoid manufacturers having to convert product lines twice, reducing their cost, and ensuring a motor loophole would not exist.

On October 5, 2020, the DOE issued a notice of proposed rulemaking (NPR) to establish a test procedure and an accompanying labeling requirement for DPPP motors. The labeling requirement was an alternative approach to the typical energy conservation standard that the industry had discussed with the Department if that was the only avenue forward. We had hoped to see a final rule issued prior to January 20, 2021. However, a final rule was not issued.

California Energy Commission

The California Energy Commission (CEC) was party to the joint petition submitted to DOE on August 14, 2018, in the hopes DOE would regulate both the pool pump and motor. Due to the inaction of DOE, CEC opened a replacement pool pump motor docket on January 31, 2019. This resulted in both informal discussions and written comments with industry between 2019 and 2020. Industry had multiple concerns with the proposed CEC rule, most significantly was the fact the CEC proposed rule expanded the scope of coverage beyond what was agreed to in the August 2018 Joint Petition. These concerns were not addressed and on September 9, 2020, the CEC replacement pool pump motor rule was approved, with a January 1, 2021, effective date, with replacement motor provisions requiring compliance on July 19, 2021. This was the same day manufacturers were required to comply with the DOE DPPP rule.

DOE issues 2021 DPPP Motor Test Procedure Final Rule

In March 2021, DOE alerted industry they would be looking to issue a DPPP Motor rule under the normal test procedure and energy conservation approach. In July 2021 DOE issued the Test Procedure for DPPP Motors Final Rule. An energy conservation standard was not issued, meaning at this time there were no requirements to go with the test procedure, and the CEC rule could still prevail in California.

DOE issues 2022 DPPP Motor ECS Proposed Rule

On June 21, 2022, DOE issued a NOPR and announcement of public meeting for energy conservation standards for DPPP motors. After five years and recognizing DOE constraints, industry was seeing movement. However, instead of looking to the August 14, 2018, joint petition, the DOE used the CEC rule in developing some of the thresholds in the NOPR.

As industry previously stated to CEC and now to DOE, in their August 22, 2022, and November 29, 2022, responses, there are aspects of the proposed rule that are extremely problematic, as follows¹:

- When the DPPP regulation went into effect in July 2022, Pool Pump manufacturers lost an average of 60% of pumps that had been on the market in 2017 but were not compliant with the new rule and were therefore removed from their offerings. (Range was 40% - 70%).
- As a result of drastically modified pool pump product offerings in the market, all data analysis in support of the DPPP Motor Rule, (most dated to 2017), cannot be considered relevant or valid. Current industry data and economics needs to be analyzed.
- There are no VS pumps or motors on the market today below 0.75 HP, which precludes any data collection and analysis to even attempt to determine if DPPP motors less than 0.75 HP are cost effective and can function properly if required to be VS.
 - The limited available 0.75-<1HP product is one motor on multiple pump SKUs and these are not mass produced.
 - Additionally, one manufacturer reported double digit growth of variable speed products above 1.25THP; however, no demand for any product below this threshold has occurred (i.e., zero units shipped).
- Industry analysis finds that self-priming and non-self-priming pumps under 1HP are not cost effective; payback periods are estimated at 12 years for filtration pumps and 9 years for VS pressure cleaner booster pumps.
- It is critical to differentiate by application, not just size, to really determine what is or is not cost-effective. At the more granular level of breaking out PCBP, self-priming and non-self-priming, we believe the analysis will show not all the current proposed requirements would be cost effective.
- Further, VS fractional horsepower (HP) filtration pumps cannot provide minimum flow at required lower speeds. This poses a health and safety issue if there is not proper circulation.
 - The NOPR analysis did not assume a range of minimum flow rates needed for certain pool equipment, and in so doing does not account for the decreased savings (or incompatibility of small VS motors) associated with existing systems that have higher

¹ See PHTA and individual manufacturer company docketed responses: <https://www.regulations.gov/docket/EERE-2017-BT-STD-0048/comments?sortBy=postedDate&sortDirection=desc>

minimum flow rates - resulting in less energy savings due to being run at high speed to ensure equipment runs as intended.

- Additional PCBP information that should be considered:
 - Based on the hydraulic operating window of a PCBP in application, the minimum RPM necessary to drive a Pressure Cleaner equates to a minimum ROI of approximately 9 Years, and no ROI in applications that require max RPM to operate, with the average lifespan of the pump being only 3.6 years. The 2023 ROI is likely much worse when considering rising costs.
 - Unlike a filtration pump, a booster pump motor is a “set it and forget it” type of operation, with the operating window of a PCBP in practical application limited to a motor speed of 2900-3450 RPM, running 2-2.5 hours a day. It therefore does not make practical sense for a PCBP to fall under the proposed DOE definition of a VS control DPPP.
 - And, as DOE proposed, PCBP’s that meet current Energy Star 3.1 requirements would become non-compliant. We recommended DOE review the advancement in booster pump hydraulic efficiency that was not accounted for and make changes to the rule to prevent these ES products from becoming noncompliant.
- The economic impact on lower median income and underserved communities whose consumers utilize aboveground and storable pools that typically fall within the small fractional motor category currently being proposed to be a VS motor would be greater than for higher income families.
 - According to PK Data, in 2022 there were approximately 3.5 million aboveground residential pools and the United States. 67% of owners earn less than \$100k/year and 33% of owners earn less than \$50k/year.
- The CEC rule has required replacement motors to comply since July 19, 2021, but we do not see motors less than 1HP being sold, as they do not exist, and the homeowner instead chooses to replace the entire pump assembly or repair the existing motor, due to the cost justification and lack of product availability.
- There is not alignment between the existing DPPP rule and proposed DPPP motor rule; for example, there are currently single speed pumps up to 1.5HP that with the proposed motor rule would become noncompliant. If alignment cannot occur, at a minimum DOE should extend the compliance date to allow manufacturers time to recover investments made to comply with the pump rule.

Conclusion/Request

PHTA is optimistic that DOE recognized many of the concerns laid out and made the necessary changes in the final rule. However, if the concerns remain, PHTA respectfully requests OIRA send DOE a return letter requesting they reconsider aspects of the rule by performing further analysis on the current marketplace and the cost effectiveness of DPPP’s by both application and size. To do otherwise, will result in issuance of a final rule based on blind assumptions. Our manufacturers stand willing and able to participate in the information gathering that will be required to complete these analyses. Further, we continue our request for a 60-month compliance date, to allow for the investments made on DPPP compliance to be recouped prior to new investments that will be required to comply with a DPPP rule.