Joint Statement of Joint Stakeholder Proposal for Energy Conservation Standards for Dedicated-Purpose Pool Pump Motors

Docket No. EERE-2017-BT-STD-0048

August 14, 2018

Association of Pool & Spa Professionals
Alliance to Save Energy
American Council for an Energy-Efficient Economy
Appliance Standards Awareness Project
Arizona Public Service
California Energy Commission
California Investor Owned Utilities
Consumer Federation of America
Florida Consumer Action Network
Hayward Industries
National Electrical Manufacturers Association
Natural Resources Defense Council
Nidec Motor Corporation
Northwest Power and Conservation Council
Pentair Water Pool and Spa
Regal Beloit Corporation
Speck Pumps
Texas ROSE (Ratepayers' Organization to Save Energy)
Waterway Plastics
WEG
Zodiac Pool Systems

I. Introduction and Overview

In January 2017, the U.S. Department of Energy ("DOE") established the first national energy-efficiency standards for dedicated-purpose pool pumps ("DPPPs") through the adoption of a direct final rule ("DFR"). DOE confirmed the adoption of the standards and the effective date and compliance date in a notice published in May 2017. The compliance date of the new standards is July 19, 2021. The DPPP standards were negotiated by an Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) working group consisting of representatives of pool pump and motor manufacturers, state government, utilities, and efficiency advocates. For most in-ground pools, the standard levels reflect variable-speed technology. Pumps for small in-ground pools, pumps for above-ground pools, and pressure cleaner booster pumps can continue to be single-speed.

For a small number of hours a day, pool pumps need to operate at a high speed to provide a high flow rate for mixing/cleaning, but most of the time they just need to circulate the pool water through the filtration system at a low flow rate. Variable-speed pumps can reduce energy use by about 70% relative to single-speed pumps by being able to operate at a lower speed for the hours during which the pump is circulating water for filtration. In addition to saving energy, operating the pump at a lower speed reduces noise levels, improves filtration effectiveness, and can extend the life of other pool equipment.

The DPPP standards will provide very large savings for consumers. There are more than 8 million pools in the U.S.[1] DOE estimated average life-cycle cost savings for owners of in-ground pools of $2,140 with a simple payback of less than 1 year.[2] The average annual operating cost savings are about $550.[3] However, the DPPP standards do not address replacement motors, which presents a significant loophole that seriously threatens both the consumer savings from the standards and the investments that manufacturers are making to comply with the standards. If the replacement motor loophole is not addressed, there will be a disruption in the market between regulated pump/motor combinations (DPPPs) and unregulated replacement motors. This would result in significant negative impacts for both consumers and domestic manufacturers.

The motor on a pool pump will often fail before the pump itself needs to be replaced, and motor-only replacements are common. Without a complementary standard for DPPP motors, when replacing a pool pump motor, consumers will continue to be sold inefficient, wasteful products. Today, even though variable-speed motors provide substantial savings to consumers as well as other benefits, significant market barriers prevent most consumers from realizing these benefits. When a motor on a pool pump fails, the consumer's priority must be to get the motor (or pump and motor) replaced as soon as possible in order to maintain sanitary and safe pool conditions. This means that when faced with a purchase decision, consumers have very little time to research their options. In many cases, service installers may install a replacement motor without providing any options to the consumer. Despite significant educational efforts on the part of pool pump manufacturers, service installers are often uninformed about variable-speed technology. In addition, the priority of service installers is generally to make a sale, not to provide the best option for the consumer. This is the case today even though service installers could make additional profit by selling variable-speed pumps and motors.

The consequences of a lack of understanding of variable-speed technology will become particularly significant once the DPPP standards take effect in 2021. Most consumers do not understand that the substantial savings from a variable-speed pump come from the motor. Consumers will likely assume that replacing the motor on a variable-speed pump will have no effect on the performance of their pump. But in fact, if an existing variable-speed motor is replaced with a single-speed motor, the consumer will lose all the energy savings and other benefits (including the quieter operation) of their variable-speed pump. When looking to replace a pool pump motor, a consumer with a variable-speed pool pump that meets the DPPP standards may therefore unknowingly end up with a single-speed replacement motor that would immediately increase their electricity bills by hundreds of dollars each year and not provide the additional benefits of variable-speed technology.

For manufacturers, a disruption in the market would lead to lower sales of regulated DPPPs and increased sales of unregulated, inefficient replacement motors. While most pool pumps are manufactured domestically, most of the motors for pool pumps are manufactured in China. Two of the major pool pump manufacturers have more than 1,400 pool equipment manufacturing jobs in North Carolina alone. Increased sales of inefficient, imported replacement motors would seriously undercut

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[1] http://www.apsp.org/Portals/0/2016%20Website%20Changes/2015%20Industry%20Stats/2015%20Industry%20Stats.pdf.

[2] 82 Fed. Reg. 5652 (January 18, 2017). Results for standard-size self-priming pool filter pumps.

[3] 82 Fed. Reg. 5715.

domestic manufacturers' investments in meeting the DPPP standards, putting American manufacturing jobs at risk.

Furthermore, if DOE does not address the replacement motor loophole, individual states may step in with their own standards. Currently, there are multiple state standards for pool pumps and motors. State standards are significantly more burdensome for manufacturers than a single national standard because they may and do result in different requirements in different states and require manufacturers to set up specific distribution channels to ensure that they do not sell noncompliant products in those states. As of July 19, 2021, the current state standards for pool pumps will be replaced with a single national standard. But if DOE does not establish complementary standards for DPPP motors, manufacturers will continue to be faced with a patchwork of state standards. A single national standard for DPPP motors is strongly preferred to reduce burdens on manufacturers, ensure a level playing field across state lines, and ensure that all consumers are protected from inefficient, wasteful products, regardless of where they live.

In comments on the 2017 DFR, multiple stakeholders urged DOE to consider complementary standards for pool pump motors. In the confirmation of effective date and compliance date for the DFR, DOE stated: "DOE plans to hold a public meeting in the near future with the interested parties to gather data and information that could lead to the consideration of energy conservation standards for replacement pool pump motors."[4] DOE subsequently held a public meeting on August 10, 2017, where DOE presented potential scope, definitions, and metrics for DPPP motors. DOE also noted in the presentation materials from the meeting that if DOE were to "receive a consensus agreement there could be deviations from the typical process to expedite" the rulemaking.[5]

After the August 2017 public meeting, representatives from pool pump and motor manufacturers, state government, utilities, and efficiency advocates (the "Joint Stakeholders") formed a technical working group to negotiate recommended standards for DPPP motors. Appendix A to this Joint Statement includes the Joint Stakeholders' recommendations.

The Joint Stakeholders request that DOE adopt our recommendations with a DFR rule using the Department's authority over "electric motors" and to align the compliance date for DPPP motors with the DPPP compliance date of July 19, 2021. In order to protect consumers, ensure that the significant investments that domestic manufacturers are making to comply with the DPPP standards are not undercut, and avoid a continuation of state standards, there must be no delay in the July 19, 2021 DPPP compliance date.

II. Identity of the Joint Stakeholders

The *Association of Pool & Spa Professionals* (APSP) represents over 3100 company members. APSP is the world's oldest and largest association representing swimming pool, hot tub, and spa manufacturers, distributors, manufacturers' agents, designers, builders, installers, suppliers, retailers, and service professionals. Dedicated to the growth and development of its members' businesses and to promoting the enjoyment and safety of pools and spas, APSP offers a range of services, from professional development to advancing key legislation and regulation at the federal and local levels, to consumer

[4] 82 Fed. Reg. 24220 (May 26, 2017).
[5] https://www.regulations.gov/document?D=EERE-2017-BT-STD-0048-0003. Slide 10.

outreach and public safety. APSP is the only industry organization recognized by the American National Standards Institute to develop and promote national standards for pools, hot tubs, and spas.

The *Alliance to Save Energy* is a non-profit, bipartisan coalition of business, government, environmental, and consumer-interest leaders that advocates for enhanced U.S. energy productivity to achieve economic growth; a cleaner environment; and greater energy security, affordability, and reliability.

The *American Council for an Energy-Efficient Economy* (ACEEE) acts as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behaviors. We believe that the United States can harness the full potential of energy efficiency to achieve greater economic prosperity, energy security, and environmental protection for all its people.

The *Appliance Standards Awareness Project* (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 efficiency standards at the national and state levels through technical and policy advocacy and through outreach and education.

Arizona Public Service is Arizona's largest and longest-serving electric company, serving more than 1.2 million customers across the state.

The *California Energy Commission* (CEC) is the primary energy policy and planning agency of the State of California. The CEC regularly participates in coalition efforts and federal efficiency rulemakings to seek more stringent energy conservation regulations from DOE that will apply to California's regulated appliances, where DOE's authority to adopt new efficiency standards preempts states from issuing their own without prior DOE approval or waiver. The CEC currently has efficiency standards for pool pump and motor combinations, and has proposed to establish efficiency standards for replacement pool pump motors should national standards not be forthcoming.

The *California Investor Owned Utilities* (CA IOUs), consisting of Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE), represent some of the largest utility companies in the Western United States, serving over 32 million customers. The CA IOUs have been involved with pool energy efficiency for over 15 years. During that time, the CA IOUs have developed and implemented various pool efficiency rebate programs, and in 2004, proposed and supported the adoption of the first in the nation appliance standards for pool pump motors in California. These standards included a test and list requirement for pool pumps to enable the reporting of Energy Factor, a metric developed by the CA IOUs that is now used by the ENERGY STAR program.

The *Consumer Federation of America* (CFA) is an association of more than 250 nonprofit consumer organizations that was established in 1968 to advance the consumer interest through research, advocacy, and education. For decades, CFA has advocated for cost-effective energy efficiency standards that benefit consumers through lower energy bills.

The *Florida Consumer Action Network* (FCAN) is a non-profit that advocates on issues including energy efficiency, utilities, environment, health care, and insurance. FCAN is affiliated with the Consumer Federation of America and Fair Share. FCAN stands for an America where everyone gets their fair share, does their fair share, and pays their fair share; and where everyone plays by the same rules.

Hayward Industries, Inc. is a leading global manufacturer of residential and commercial pool equipment and industrial flow control products. Headquartered in Elizabeth, New Jersey with over 1,500 US-based employees, Hayward designs, manufactures, distributes, and markets a complete line of residential pool equipment including pumps, filters, heaters, automatic cleaners, sanitizers, automation, and lights. Hayward is a strong advocate of energy saving products as witnessed by its growing portfolio of energy efficient equipment, including a broad range of ENERGY STAR® approved variable speed pumps.

The *National Electrical Manufacturers Association* (NEMA) represents nearly 350 electrical equipment and medical imaging manufacturers that make safe, reliable, and efficient products and systems. Our combined industries account for 360,000 American jobs in more than 7,000 facilities covering every state. Our industry produces $106 billion shipments of electrical equipment and medical imaging technologies per year with $36 billion exports.

The *Natural Resources Defense Council* (NRDC) is a national environmental advocacy organization with over 1.3 million members and online activists. NRDC has spent decades working to build and improve DOE's federal appliance standards programs because of the important energy, environmental, consumer, and reliability benefits of appliance efficiency standards. NRDC participated in the enactment of the first federal legislation establishing efficiency standards, and has been active in all significant rulemakings since then.

Nidec Motor Corporation is a leading manufacturer of commercial, industrial, and appliance motors and controls. The NMC product line features a full line of high efficiency motors, large and small, which serve industrial, residential, and commercial markets in applications ranging from agriculture, water treatment, mining, oil and gas, and power generation to pool and spa motors, air conditioning condensers, rooftop cooling towers, and commercial refrigeration. It also makes motors, controls, and switches for automotive and commercial markets.

The *Northwest Power and Conservation Council* is an interstate compact authorized by Congress in the Northwest Power Act of 1980 (P.L.96-501) to ensure that the region has an adequate, efficient, economical, and reliable power supply system. The members of the Council are appointed by the Governors of the four Northwest states of Idaho, Montana, Oregon and Washington.

Pentair is a leading manufacturer of smart, sustainable water solutions for homes, business and industry around the world. Our industry leading and proven portfolio of solutions enables people, business and industry to access clean, safe water, reduce water consumption, and recover and reuse it. Whether it's improving, moving or helping people enjoy water, we help manage the world's most precious resource. A strategic business of Pentair, Pentair Aquatics Systems is based in Cary, N.C., and is one of the world's leading providers of premium pumps, filters, heaters, controls, cleaners, lighting systems, water features, and maintenance products for swimming pools and spas.

Regal is a manufacturing company with over 5,770 employees in the USA. Regal is a leading manufacturer of electric motors, electrical motion controls, power generation and transmission products with sales of over $3.4B in 2017. Regal is a technology leader in high-efficiency products.

Speck Pumps is a leading international manufacturer of high-quality pumps for commercial and industrial applications.

Texas ROSE (Texas Ratepayers' Organization to Save Energy) is a non-profit organization dedicated to helping Texans' get affordable electricity and a healthy environment. We provide straightforward information to consumers and advocate for customer protections for consumers, energy efficiency programs, and customer education by providing information to the Public Utility Commission (PUC), Austin City Council and the Texas Legislature. Texas ROSE has been involved in helping to create utility programs to provide lower rates for low-income consumers and weatherization programs to permanently lower energy use and utility bills.

Waterway Plastics is proud to design, engineer and manufacture pool and spa pumps, filters, white goods and accessories and other pool and spa products in Oxnard, CA, USA.

WEG is a manufacturer of industrial and commercial components and systems solutions for customers across multiple markets around the world. WEG is 30,000 employees strong across 12 manufacturing locations and 28 commercial sites, holding the distinction of having largest manufacturing site in the world at its headquarters in Jarugua Du Sol, Brazil. This campus is 3.57M square feet and occupied by nearly 13,000 employees. WEG has over 3,000 employees in the US between the US Headquarters in Atlanta, an industrial motor manufacturing location in Minneapolis, a transformer manufacturer in Missouri, and the Global Center of Commercial Motors Excellence in Bluffton, IN. The US is served out of these locations, with manufactured product support out of Mexico and Brazil. Over half of the product produced in the US is applied into pumping applications, whether it be clean water or dirty, or even hydroelectric power generation. WEG has traditionally focused it sales from its genesis in 1942 up to around 1985 in the local Brazilian market, though through a combination of acquisition and organic development, export sales has increased by an amazing 36 times, with infrastructure and skills to continue a strong growth pattern well into the future.

Zodiac Pool Systems, LLC is a global leader in swimming pool and spa products and services. Zodiac is recognized as a leading, global provider of premium, innovative pool and spa products, equipment and solutions for in-ground residential swimming pools and spas. Zodiac is committed to designing and producing energy efficient, earth-friendly pool products and systems.

III. Development of the Recommendations

The Joint Stakeholders' recommendations were developed during a series of meetings between December 2017 and June 2018 of a technical working group consisting of pool pump and motor manufacturers, state government, utilities, and efficiency advocates. The goal of the working group was to develop a set of consensus recommendations for standards for DPPP motors to align with the standards for DPPPs and to take effect concurrently with the DPPP standards on July 19, 2021.

IV. The Joint Stakeholders' Proposal

The Joint Stakeholders' proposal (included as Appendix A) includes recommendations for definitions, scope of coverage, prescriptive requirements, labeling, reporting, compliance date, and verification. Importantly, our proposal would not result in any change to the current DPPP standards and instead is complementary. There are also no new costs associated with our proposal because the analysis for the DPPP rulemaking already accounted for the costs of motor replacements.

A. Definitions

Our proposed definitions include a definition for "dedicated-purpose pool pump motor," which covers any motor that is certified to UL 1004-10[6] and/or designed and/or marketed for use in DPPP applications. Our proposed definitions also define motors that meet the definition for "dedicated-purpose pool pump motor" but that would be exempt from the standards that we are proposing. These definitions for exempted motors were crafted such as to minimize the risk of any potential loopholes.

B. Scope of Coverage

DPPP motors are electric motors. Our proposed scope of coverage includes DPPP motors with total horsepower (THP) less than or equal to 5 THP. The 5 THP upper bound aligns with the upper bound for hydraulic horsepower (HHP) in the standards for DPPPs for self-priming and non-self-priming pool filter pumps. (5 THP is roughly equivalent to 2.5 HHP.) Our proposed scope of coverage would exempt six types of pool pump motors from our proposed standards: polyphase motors capable of operating without a drive (and distributed in commerce without a drive), waterfall pump motors, rigid electric spa pump motors, storable electric spa pump motors, integral cartridge-filter pool pump motors, and integral sand-filter pool pump motors. These exemptions align with the DPPP standards.[7] The exemption for polyphase motors is designed to exclude three-phase motors that are intended for use in commercial applications (where there is three-phase power available), but to include three-phase motors that operate with a drive that converts single-phase power to three-phase power and are intended for use in residential applications.

Our proposed standards (described below) would apply to DPPP motors that are sold as replacements as well as motors that are part of DPPPs. All pool pump motors would thus be treated equally and subject to the same requirements. Importantly, our proposed scope of coverage includes DPPP motors in DPPPs regardless of whether the DPPP is manufactured domestically or imported. If motors in imported DPPPs were not covered, manufacturers that manufacture DPPPs domestically would be put at a disadvantage. Our proposed scope of coverage will thus provide a level playing field and protect U.S. manufacturing.

C. Prescriptive Requirements

Our proposal for standards for DPPP motors is a prescriptive approach. We believe that a prescriptive approach is the quickest and simplest way to address the replacement motor loophole. We originally considered a performance-based approach. However, a performance approach for DPPP motors would require an entirely new metric and test procedure, which would significantly delay implementation of our proposal, thereby increasing manufacturer burden. Our proposed prescriptive requirements align with the DPPP standards while avoiding the need for a test procedure rulemaking. Importantly, our prescriptive approach still gives manufacturers significant flexibility to provide a wide range of efficient motor options to consumers including different speed options and user interfaces.

Our proposed standards include three prescriptive requirements that align with the DPPP standards. First, DPPP motors would be prohibited from operating with a capacitor start induction run (CSIR) or split phase (SP) configuration at maximum operating speed. This requirement aligns the motor types for DPPP motors with the DPPP standards. This requirement is also consistent with existing state standards

[6] Note: UL 1004-10 is in the process of being developed. We will provide an update to DOE once the UL standard has been published.

[7] Note: Integral cartridge filter and integral sand filter pool pumps are subject to the DPPP standards, but they do not have to meet an energy performance requirement.

in Arizona, California, Connecticut, and Washington. Prohibiting these inefficient motor configurations will help prevent low-quality foreign imports from undercutting U.S. manufacturers and ensure that consumers are not stuck with very inefficient motors that would increase their electricity bills.

Second, DPPP motors with THP greater than or equal to 1.15 THP would be required to meet the definition of "variable-speed control dedicated-purpose pool pump motor," which we have defined. The 1.15 THP threshold aligns with the 0.711 HHP threshold in the DPPP standards for self-priming pool filter pumps. (1.15 THP is roughly equivalent to 0.711 HHP.) Almost all motors used in non-self-priming pool filter pumps and pressure cleaner booster pumps have THPs less than 1.15 THP. Therefore, DPPP motors that must meet the definition of "variable-speed control dedicated-purpose pool pump motor" will almost exclusively be motors for self-priming pool filter pumps, aligning with the DPPP standards.

Our proposed definition for "variable-speed control dedicated-purpose pool pump motor" would include motors that provide at least four speed options. Providing the choice of a variety of speeds would align with the DPPP standards, which, for most in-ground pumps, are based on the performance of pumps with variable-speed motors. At the same time, our proposed definition would provide manufacturers flexibility in developing new products. In particular, our proposed definition would allow manufacturers to introduce lower-cost motors that are not "true" variable-speed products, but that still provide very substantial energy savings and performance consistent with the DPPP standards. Our proposed definition for "variable-speed control dedicated-purpose pool pump motor" also includes specifications for how these motors must be distributed in commerce to ensure that they have the ability to operate at a variety of speeds in the field (e.g., be distributed with a variable speed drive), which align with the DPPP standards. Since variable-speed replacement motors may be sold without a drive (e.g., if the existing installed drive is still functioning), we have also provided the option for a variable-speed motor to be sold without a drive as long as it cannot operate without a drive. Our proposed definition for "variable-speed control dedicated-purpose pool pump motor" also includes specifications regarding high speed override capability and default settings to help ensure that motors meeting this definition deliver the expected savings for consumers.

Finally, DPPP motors with freeze protection controls would be subject to the same requirements as DPPPs with freeze protection controls. These requirements are designed to ensure that motors with freeze protection controls do not end up running for more hours than are required to provide adequate freeze protection, resulting in significant wasted energy and unnecessary additional electricity costs for consumers.

D. Labeling

Our preference is for labeling requirements to be included as part of the rule for DPPP motors. Our proposed labeling requirements include the dedicated-purpose pool pump motor total horsepower and whether the motor is single-speed, two-speed, multi-speed, or variable-speed control. These labeling requirements would provide additional information to both consumers and installers and help standardize the use of total horsepower throughout the industry.

E. Reporting

We are proposing that reporting requirements for DPPP motors include, but not be limited to, information about the settings of the controls for motors with freeze protection controls. These reporting requirements align with the reporting requirements for DPPPs.

F. Compliance Date

The compliance date for DPPP motors must be July 19, 2021 to align with the compliance date for DPPPs. Aligning the compliance dates is essential in order to prevent a loophole for replacement motors and to avoid the need for manufacturers to convert their product lines twice, which would significantly increase their costs and, in turn, costs for consumers.

Further, the compliance date for DPPPs must remain July 19, 2021. U.S. manufacturers of both pool pumps and motors are already making significant investments to comply with the DPPP standards. If enforcement of the DPPP standards were to be delayed beyond the current compliance date, the beneficiaries of such a delay would be foreign manufacturers who have not yet made investments in upgrading their technology and who would see an opportunity to sell inefficient pumps to the U.S. market. This outcome would inflict serious harm on domestic manufacturers by undercutting their investments, which would threaten American manufacturing jobs. Manufacturers would also face market confusion in the event that the standards continued to be enforced through state building codes, despite a federal delay on enforcement. Finally, a delay would seriously harm consumers who would continue to be sold inefficient, wasteful products, costing them hundreds of dollars in electricity bill savings each year.

G. Verification of Total Horsepower

We are proposing that for purposes of verifying THP, DOE should use the test procedure for DPPPs, which includes methods for determining dedicated-purpose pool pump motor total horsepower.

V. Benefits of the Joint Stakeholder Proposal

Our proposal for DPPP motors will provide significant benefits to consumers, manufacturers, and the electric grid. By closing the replacement motor loophole, consumers will be assured that when replacing the motor on a variable-speed pump, the new motor will continue to provide the $550 in average annual operating cost savings and the additional benefits of variable-speed technology. Pool pump manufacturers will be protected against a market shift to unregulated, foreign-made replacement motors, which would threaten American manufacturing jobs. Finally, because pool pumps often operate the most in the summer and during times of peak demand, protecting the significant electricity savings from the DPPP standards will also protect the corresponding reductions in peak demand, which bolster electric grid resilience. Reductions in peak demand also help lower electricity rates, which benefits all consumers. However, in order for these significant benefits to consumers, manufacturers, and the electric grid to be realized, the compliance date for DPPP motor standards must be July 19, 2021, and there must be no delay in the DPPP compliance date.

VI. Electric Motors Authority

DOE should adopt our proposal for standards for DPPP motors using the Department's authority over "electric motors." "Electric motor" is defined as "a machine that converts electrical power into rotational mechanical power" (10 CFR 431.12). DPPP motors are electric motors, and electric motors are already covered equipment.

VII. Use of a DFR

DOE should adopt our proposal for standards for DPPP motors using a DFR. Importantly, a DFR will ensure that the compliance date for DPPP motors can be aligned with that for DPPPs. As described above, alignment of the compliance dates is essential in order to close the replacement motor loophole and to avoid manufacturers having to convert their product lines twice. Further, it is essential that the compliance dates for both DPPPs and DPPP motors be July 19, 2021 as any delay in the compliance date for DPPPs would have serious negative consequences for both consumers and domestic manufacturers.

DOE has the authority to issue a DFR "on receipt of a statement that is submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates)" (42 U.S.C. 6295(p)(4)). The signatories to this Joint Statement include all relevant stakeholders including manufacturers of both pool pumps and motors; a trade association that represents pool pump and pool pump motor manufacturers and installers; a trade association that represents motor manufacturers; states; consumer advocate organizations; efficiency and environmental organizations; and electric utilities.

While we believe that all relevant stakeholders are represented by the signatories to this Joint Statement, to the extent that there is any concern regarding the ability for any other party to provide input on our recommended standards before they are issued as part of a DFR, DOE could publish our Joint Statement and provide a limited (e.g., 30-day) comment period.

VIII. Executive Order Compliance

Importantly, there are no new costs associated with our proposal. The analysis for the DPPP rulemaking already accounted for the costs of motor replacements for the portion of consumers that will replace the motor during the life of their pump. Specifically, the DPPP rulemaking assumed like-for-like motor replacements (e.g., that a variable-speed motor would be replaced with a new variable-speed motor). The assumption of like-for-like motor replacements does not reflect the real-world situation and the high likelihood of many variable-speed motors on compliant pumps being replaced not with variable-speed motors, but with inefficient single-speed motors. Nevertheless, because the costs of variable-speed replacement motors were already accounted for in the DPPP rulemaking, DOE would be double counting the costs if the Department were to include costs associated with motor replacements in a DPPP motors rulemaking.

Since there are no costs associated with our proposal relative to the costs assumed in the DPPP rule, we believe that our proposal would not be subject to Executive Orders 12866 and 13771.

IX. Conclusion

The Joint Stakeholders strongly urge DOE to adopt our proposal for standards for DPPP motors contained in Appendix A in order to protect consumers and the investments being made by domestic manufacturers. We encourage DOE to act expeditiously in order to ensure alignment of the compliance date for DPPP motors with the compliance date for DPPPs (July 19, 2021).

Sincerely,

Jennifer Hatfield
Director, Government Affairs
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Daniel Bresette
Vice President, Policy and Research
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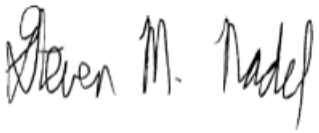

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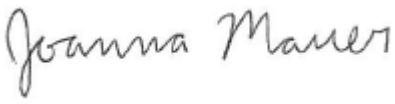

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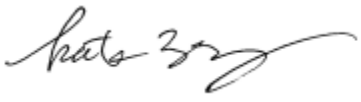

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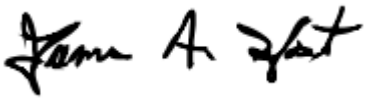

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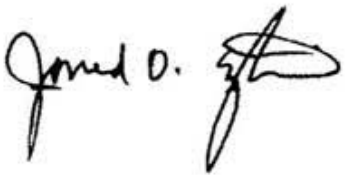

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APPENDIX A

Dedicated-Purpose Pool Pump (DPPP) Motors
Joint Stakeholder Proposal

Definitions

Capacitor-start, induction-run means a single-phase induction motor configuration with a main winding arranged for direct connection to a source of power and an auxiliary winding connected in series with a capacitor. The motor configuration has a capacitor phase, which is in the circuit only during the starting period.

Dedicated-purpose pool pump motor means an electric motor that is single-phase or polyphase which complies with and is certified to UL 1004-10 and/or is designed and/or marketed for use in dedicated-purpose pool pump applications.

Designed and marketed means that the equipment is designed to fulfill the intended application and, when distributed in commerce, is designated and marketed solely for that application, with the designation on all the packaging and all publicly available documents (e.g., product literature, catalogs, and packaging labels).

Designed and/or marketed means that the equipment is designed to fulfill the intended application and/or, when distributed in commerce, is designated and marketed for that application, with the designation on the packaging and/or any publicly available documents (e.g., product literature, catalogs, and packaging labels).

Drive means a power converter (such as a variable speed drive or phase-converter).

Integral cartridge-filter pool pump motor means a dedicated-purpose pool pump motor that is distributed in commerce as a component of an integral cartridge-filter pool pump as defined at 10 CFR 431.462.

Integral sand-filter pool pump motor means a dedicated-purpose pool pump motor that is distributed in commerce as a component of an integral sand-filter pool pump as defined at 10 CFR 431.462.

Maximum operating speed means the rated full-load speed of a motor powered by a 60 Hz alternating current (AC) source.

Rigid electric spa pump motor means a dedicated-purpose pool pump motor that does not have a C-flange or square flange mounting and that is:

(1) labeled,
(2) designed, and
(3) marketed

for use only in rigid electric spas as defined at 10 CFR 431.462.

Split phase means a single-phase induction motor configuration with an auxiliary winding displaced in magnetic position from, and connected in parallel with the main winding. The auxiliary circuit is open when the motor has attained a predetermined speed.

Storable electric spa pump motor means a dedicated-purpose pool pump motor that is distributed in commerce as a component of a storable electric spa pump as defined at 10 CFR 431.462.

Waterfall pump motor means a dedicated-purpose pool pump motor with a maximum speed less than or equal to 1,800 rpm that is designed and marketed for waterfall pump applications and labeled for use only with waterfall pumps.

Scope of coverage

DPPP motors meet the definition of electric motor at 10 CFR 431.12. The standards will apply to dedicated-purpose pool pump (DPPP) motors, including DPPP motors incorporated in DPPPs produced domestically and imported, with dedicated-purpose pool pump motor total horsepower (THP) as defined at 10 CFR 431.462 less than or equal to 5 THP, with the following exemptions:

Exempted DPPP motors:

- Polyphase motors capable of operating without a drive and distributed in commerce without a drive that converts single-phase power to polyphase power
- Waterfall pump motors
- Rigid electric spa pump motors
- Storable electric spa pump motors
- Integral cartridge-filter pool pump motors
- Integral sand-filter pool pump motors

Prescriptive requirements

There will be prescriptive requirements for all DPPP motors, for DPPP motors with a THP greater than or equal to 1.15 THP, and for DPPP motors with freeze protection controls. DPPP motors include motors manufactured domestically, motors imported alone, and motors imported as a component of a DPPP assembly.

DPPP motors

DPPP motors must not operate with a capacitor start induction run (CSIR) or split phase (SP) configuration at maximum operating speed.

DPPP motors with THP greater than or equal to 1.15 THP

DPPP motors with THP greater than or equal to 1.15 THP will have a prescriptive speed control requirement.

Prescriptive Requirement: Variable Speed Control

Each dedicated-purpose pool pump motor with a dedicated-purpose pool pump motor total horsepower greater than or equal to 1.15 THP shall meet the definition of a variable-speed control dedicated-purpose pool pump motor.

A *variable-speed control dedicated-purpose pool pump motor* means:

A dedicated-purpose pool pump motor that is capable of operating at four or more discrete, user- or pre-determined operating speeds, where one of the operating speeds is the maximum operating speed and at least:

- One of the operating speeds is 75% to 85% of the maximum operating speed;
- One of the operating speeds is 45% to 55% of the maximum operating speed;
- One of the operating speeds is less than or equal to 40% of the maximum operating speed and greater than zero.

And that must be distributed in commerce either:

(1) With a variable speed drive and 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;
(2) With a variable speed drive and 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; or
(3) Without a variable speed drive and with or without a user interface, but is unable to operate without the presence of a variable speed drive.

And:

(1) Any high speed override capability shall be for a temporary period not to exceed one 24-hour cycle without resetting to default settings or resuming normal operation according to pre-programmed user preferences; and
(2) Any factory default setting for daily run time schedule may not include more hours at an operating speed above 55% of maximum operating speed than the hours at or below 55% of maximum operating speed; or if a motor is distributed in commerce without a default setting for daily run time schedule, the default operating speed after any priming cycle (if applicable) must be no greater than 55% of the maximum operating speed.

DPPP motors with freeze protection controls

For all dedicated-purpose pool pump motors distributed in commerce with freeze protection controls, the motor must be shipped with freeze protection disabled or with the following default, user-adjustable settings:

(1) The default dry-bulb air temperature setting is no greater than 40 °F;
(2) The default run time setting shall be no greater than 1 hour (before the temperature is rechecked); and
(3) The default motor speed shall not be more than $\frac{1}{2}$ of the maximum speed.

Labeling

If DOE is able to implement labeling requirements, the permanent nameplate must be marked clearly with the following information:

(A) The dedicated-purpose pool pump motor total horsepower; and

(B) Either: single-speed, two-speed, multi-speed, or variable-speed control.

Reporting

Certification reporting requirements should include, but not be limited to,:

(A) For dedicated-purpose pool pump motors distributed in commerce with freeze protection controls, a statement regarding whether freeze protection is shipped enabled or disabled, and for dedicated-purpose pool pump motors distributed in commerce with freeze protection controls enabled, the default dry-bulb air temperature setting (in °F), default run time setting (in minutes), and default motor speed (in rpm).

Compliance date

The compliance date should be July 19, 2021 to align with the compliance date of the DPPP standards.

Verification of THP

For purposes of verifying THP, DOE should use the DPPP test procedure at 10 CFR 431 Appendix C to Subpart Y.