Appliance Standards Awareness Project
American Council for an Energy-Efficient Economy
Northwest Energy Efficiency Alliance

February 18, 2025

Dr. Carl Shapiro
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-2022-BT-STD-0025: Energy Conservation Standards for Portable Electric Spas

Dear Dr. Shapiro:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP), American Council for an Energy-Efficient Economy (ACEEE), and the Northwest Energy Efficiency Alliance (NEEA) on the notice of data availability (NODA) for energy conservation standards for portable electric spas. 90 Fed. Reg. 4605 (January 16, 2025). We appreciate the opportunity to provide input to the Department.

New standards for portable electric spas would deliver large cost savings for consumers. DOE's NODA analysis estimates that households with a typical baseline standard spa spend more than $500 each year in electricity costs on average to operate the spa; more efficient, cost-effective models can cut these operating costs by up to two-thirds.[1] These large electricity bill savings of up to nearly $400 annually coupled with relatively modest estimated first-cost increases (of about 10% or less) result in significant consumer benefits. DOE estimates that standards for portable electric spas could provide average life-cycle cost (LCC) savings for households of up to about $1,600 for standard spas, $2,200 for exercise spas, $3,700 for combination spas, and $240 for inflatable spas;[2] estimated simple payback periods at cost-effective efficiency levels are about 2 years or less for standard, exercise, and combination spas and about 6 months for inflatable spas. On a national level, DOE estimates that standards for portable electric spas could deliver up to $10.6 billion in net present value savings for purchasers over 30 years of product sales.

More efficient portable electric spas are readily available on the market today. California's Modernized Appliance Efficiency Database System (MAEDbS) has nearly 2,000 certified spas that meet the existing California state-level efficiency standards, which are equivalent to the latest industry standard—APSP-14 2019. (Thirteen other states have also adopted standards for portable electric spas.) DOE's analysis shows that a typical standard spa just meeting the industry standard cuts annual energy

[1]NODA Support Document. www.regulations.gov/document/EERE-2022-BT-STD-0025-0016, p. 8-21. DOE's analysis shows efficiency levels up to Efficiency Level (EL) 7 for standard spas to be cost-effective for consumers. The average first-year operating cost at EL 7 is $191 compared to the baseline first-year operating cost of $569.
[2]www.regulations.gov/document/EERE-2022-BT-STD-0025-0016, pp. 8-21 to 8-25. The average LCC savings account for purchases of higher-efficiency spas absent new standards.

use by nearly half relative to the least efficient models on the market.[3] Further, as shown in Figure 1 below, which plots standby power versus spa fill volume for standard spas (left) and inflatable spas (right), there are many models in the MAEDbS database that are significantly more efficient than the current industry standard across a broad range of capacities. For example, there are several 300-gallon standard spas, a common size, available on the market today that have standby power ratings (~100 W) that are equivalent to about half of the maximum allowable power consumption (~200 W). In other words, the expected operating cost of these more efficient units would be about half that of a spa just meeting the industry standard. This general trend is observed across the entire range of available fill volumes for both standard and inflatable spas.

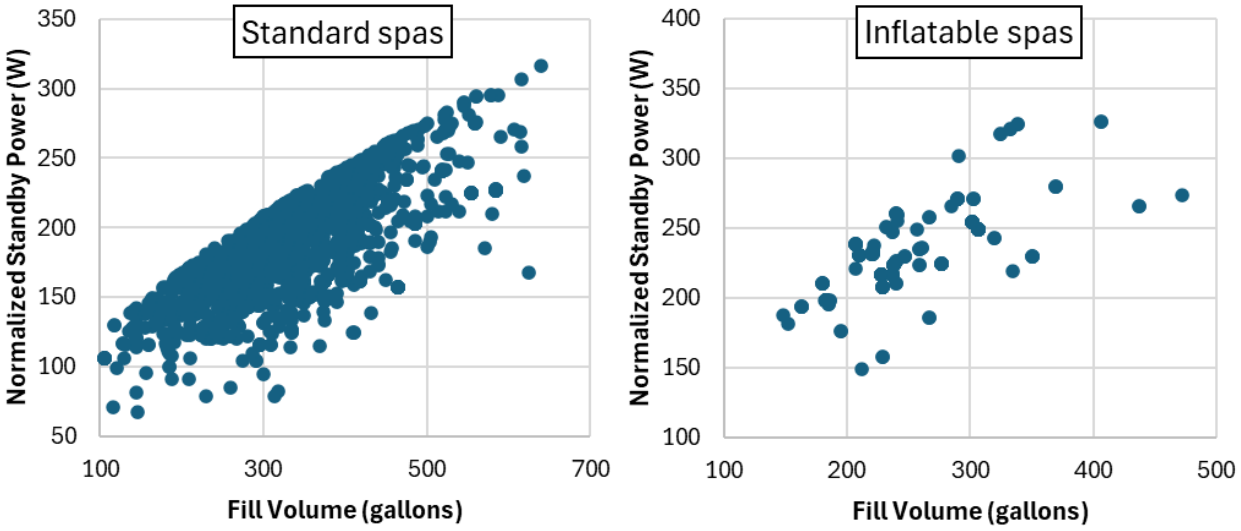

Figure 1. Spa normalized standby power (W) versus spa fill volume (gal) for standard (left) and inflatable (right) spas in the California MAEDbS.

DOE's analysis provides a robust foundation for evaluating efficiency standards for portable electric spas. In support of this rulemaking, DOE conducted 87 physical tests as well as teardowns of spa models and manufacturer interviews to estimate the efficiency gains and costs associated with different design options.[4] DOE's analysis shows that all cost-effective efficiency levels are achievable through straightforward design changes using technologies available on the market today such as improved insulation, radiation barriers, and more efficient pumping systems. DOE also conducted a robust region-based analysis using RECS 2020 data to estimate the annual energy use associated with each efficiency level. We support DOE's analysis approach and believe that it provides a strong foundation for determining potential standard levels that would be both technically feasible and cost-effective for purchasers.

Thank you for considering these comments.

Sincerely,

[3]www.regulations.gov/document/EERE-2022-BT-STD-0025-0016, p. 7-8. The current industry standard is equivalent to EL 4 for standard spas.
[4]www.regulations.gov/document/EERE-2022-BT-STD-0025-0016, pp. 5-3, 5-8, 5-9.

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