

Appliance Standards Awareness Project
Alliance for Water Efficiency
American Council for an Energy-Efficient Economy
Consumer Federation of America
Consumer Reports
Earthjustice
National Consumer Law Center, on behalf of its low-income clients
Natural Resources Defense Council
Northwest Energy Efficiency Alliance
Pacific Gas and Electric Company

August 12, 2024

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–2019–BT–STD–0039/RIN 1904–AF60: Direct Final Rule for Energy Conservation Standards for Dishwashers

Dear Dr. Shapiro:

The Appliance Standards Awareness Project (ASAP), Alliance for Water Efficiency (AWE), American Council for an Energy-Efficient Economy (ACEEE), Consumer Federation of America (CFA), Consumer Reports (CR), Earthjustice, National Consumer Law Center, on behalf of its low-income clients (NCLC), Natural Resources Defense Council (NRDC), Northwest Energy Efficiency Alliance (NEEA), and Pacific Gas and Electric Company (PG&E) write to provide our strong support for the U.S. Department of Energy's (DOE's) Direct Final Rule (DFR) establishing amended energy conservation standards for dishwashers. 89 Fed. Reg. 31398 (April 24, 2024).

Our organizations include consumer advocates, efficiency and environmental advocates, and a utility; we have worked for decades advocating for energy and water efficiency standards that provide large savings for consumers and significant cuts in carbon dioxide and other air pollutant emissions. Our coalition includes organizations that are leaders in testing appliances; conducting field studies on appliance energy use; evaluating emerging technologies; developing and implementing programs to increase the market share of efficient products; analyzing the impacts of improved efficiency standards; and producing the energy powering appliances. Our coalition also includes leading environmental groups and organizations that advocate for consumers and, in particular, low-income consumers.

We strongly support the standards in the DFR. The standards in the DFR reflect the joint recommendation that we submitted to DOE in September 2023 with the Association of Home Appliance

Manufacturers (AHAM),¹ which was supported by States and additional utilities.² The standards for dishwashers were part of a package of recommendations for six products (refrigerators/freezers, miscellaneous refrigeration products, residential clothes washers, clothes dryers, dishwashers, and cooking products). We appreciate that DOE has published DFRs consistent with our joint recommendation for all six products.

The new standards for dishwashers will cost-effectively reduce energy consumption by 15% relative to the current standards while also cutting water waste. On a national level, the standards will save 0.31 quadrillion Btus of energy and 240 billion gallons of water over 30 years of shipments and cut carbon dioxide emissions by 9.5 million metric tons.³ Furthermore, most consumers will see no price increase as a result of the standards in the DFR; DOE's analysis shows that most dishwashers sold today that do not meet the new standards could be modified to do so using improved control strategies and design tolerances, which have no associated incremental cost.⁴

The standards in the DFR will particularly benefit low-income consumers. Low-income households spend three times more of their income on energy costs compared to non-low-income households;⁵ the utility bill savings from the new standards will therefore benefit low-income households in particular. In addition, low-income households are disproportionately renters, who often are unable to choose their own dishwasher and yet typically pay the utility bills;⁶ the new standards will ensure that landlords purchase dishwashers that do not unnecessarily contribute to high utility bills for their tenants. DOE found that the average payback period for low-income households for standard-size dishwashers is 1.6 years.⁷

The standards in the DFR combined with the amended test procedure will ensure that new dishwashers provide good cleaning performance. The amended test procedure for dishwashers (Appendix C2) that will be used to determine compliance with the new standards requires that models meet a minimum per-cycle cleaning index threshold of 70 at each of the soil loads for a test cycle to be considered valid; this requirement ensures that compliant dishwashers are adequately cleaning the dishes. DOE's testing found that standard-size dishwashers with efficiencies up to Efficiency Level (EL) 3 can achieve the specified cleaning index threshold,⁸ while DOE adopted EL 2. In addition, there are nearly 500 standard-size dishwasher models that are certified to the current ENERGY STAR specification,⁹ which is more stringent than the standards in the DFR; all ENERGY STAR qualified

¹ <https://www.regulations.gov/comment/EERE-2014-BT-STD-0005-12811>.

² See <https://www.regulations.gov/comment/EERE-2019-BT-STD-0039-0056> (supporting statement from the New York State Energy Research and Development Authority, California Energy Commission, and Massachusetts Department of Energy Resources, dated October 5, 2023); <https://www.regulations.gov/comment/EERE-2019-BT-STD-0039-0057> (supporting statement from San Diego Gas and Electric and Southern California Edison, dated October 17, 2023).

³ 89 Fed. Reg. 31462, 31468. DOE adopted Trial Standard Level (TSL) 3.

⁴ 89 Fed. Reg. 31431 (Table IV.13), 31452 (Table V.2). DOE estimates that 84% of current standard-size dishwasher sales are at Efficiency Level (EL) 1, while the standard level adopted is equivalent to EL 2.

⁵ <https://www.aceee.org/sites/default/files/pdfs/u2006.pdf>.

⁶ Nearly 90% of renters pay some or all of their energy bills:
<https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%209.2.pdf>.

⁷ 89 Fed. Reg. 31453. DOE adopted TSL 3.

⁸ 88 Fed. Reg. 32532 (May 19, 2023).

⁹ <https://www.energystar.gov/productfinder/product/certified-residential-dishwashers/results>. Accessed July 31, 2024.

products must meet a minimum cleaning performance index. These data demonstrate that there is wide availability of dishwashers that both meet the standard levels in the DFR and provide good cleaning performance.

The standards in the DFR will not negatively impact drying performance. DOE’s analysis does not assume any change in drying technology except at EL 4,^{10 11} while DOE adopted EL 2; manufacturers can continue to use heated drying with a resistance heater to meet the standards in the DFR. Therefore, there is no reason to believe that the standards in the DFR will negatively impact drying performance.

The standards in the DFR will not require an increase in cycle time. DOE’s investigative testing found that dishwasher cycle time is not correlated with energy or water consumption,¹² indicating that the standards in the DFR will not require any substantive increase in cycle time. Furthermore, both the test procedure used today for dishwashers (Appendix C1) and the amended test procedure (Appendix C2) capture energy and water consumption only on the “normal cycle”; manufacturers will continue to be able to offer short cycle options, which will not be impacted by the standards in the DFR.

There is no evidence that the frequency of behaviors such as pre-rinsing, handwashing, or running multiple cycles has increased over time or will increase in the future as a result of the standards in the DFR. Data on dishwasher usage indicate that the average number of cycles per year has declined over time. DOE established an assumed annual number of cycles per year of 215 in 2003 for the purposes of the dishwasher test procedure based on data from several sources including the 1997 Residential Energy Consumption Survey (RECS).¹³ DOE recently updated the number of cycles per year to 185 based on the 2015 RECS. In other words, there is no evidence that consumers are running multiple cycles in response to improved efficiency standards. In addition, according to *Consumer Reports*, with dishwashers sold a decade or two ago, “you had to prerinse dirty plates, bowls, and glasses in the sink before loading them into the dishwasher to ensure your dishes came out clean.” But now, “most dishwashers work *better* if you don’t prerinse them.”¹⁴ Furthermore, as described above, the standards in the DFR will not negatively impact performance; in fact, the new standards combined with the amended test procedure will ensure that new dishwashers provide good cleaning performance. Therefore, there is no reason to believe that behaviors such as pre-rinsing, handwashing, or running multiple cycles will increase in the future as a result of the standards in the DFR.

We do not expect the standards in the DFR to have any impact on product reliability. The standards in the DFR can be met with straightforward design changes that have already been incorporated in many models on the market today. DOE estimates that 84% of current dishwasher sales are at EL 1;¹⁵ manufacturers of these models can meet the new standards using improved control strategies and design tolerances. Furthermore, as shown in figure 1 below, historical RECS data show that the distribution of dishwasher age remained largely unchanged between 2005 and 2020 as dishwasher efficiency improved. Therefore, we do not expect the standards to have any impact on product reliability.

¹⁰ EL 4 assumes use of condensation drying in place of heated drying using a resistance heater.

¹¹ <https://www.regulations.gov/document/EERE-2019-BT-STD-0039-0061>. pp. 5-15 to 5-18.

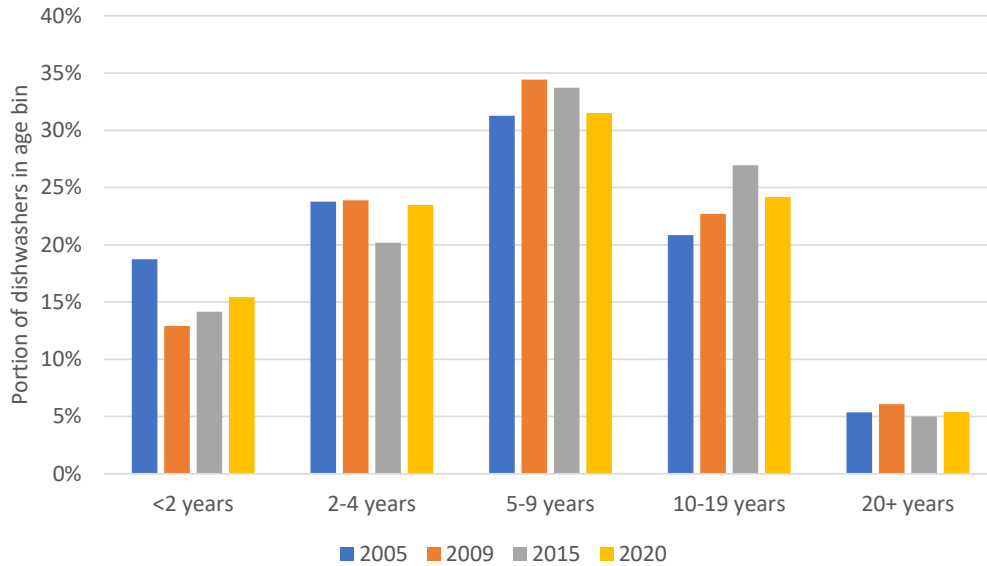
¹² <https://www.regulations.gov/document/EERE-2019-BT-STD-0039-0015>. pp. 5-17, 5-18.

¹³ 88 Fed. Reg. 3244 (January 18, 2023).

¹⁴ <https://www.consumerreports.org/appliances/dishwashers/how-to-use-your-dishwasher-a6468169097/>.

¹⁵ 89 Fed. Reg. 31431 (Table IV.13).

Figure 1. Distribution of dishwasher age in RECS 2005, RECS 2009, RECS 2015, and RECS 2020¹⁶



Thank you for considering these comments.

Sincerely,

Joanna Mauer
Deputy Director
Appliance Standards Awareness Project

On behalf of—

- Alliance for Water Efficiency*
- American Council for an Energy-Efficient Economy*
- Consumer Federation of America*
- Consumer Reports*
- Earthjustice*
- National Consumer Law Center, on behalf of its low-income clients*
- Natural Resources Defense Council*
- Northwest Energy Efficiency Alliance*
- Pacific Gas and Electric Company*

ASAP organizes and leads a broad-based coalition effort that works to advance, win, and defend new appliance, equipment, and lighting standards that cut emissions that contribute to climate change and other environmental and public health harms, save water, and reduce economic and environmental burdens for low- and moderate-income households.

¹⁶ <https://www.eia.gov/consumption/residential/>.

AWE is a national, stakeholder-based 501(c)(3) nonprofit with more than 500 member organizations dedicated to the efficient and sustainable use of water. AWE provides a forum for collaboration around policy, information sharing, research, education, and stakeholder engagement on water efficiency and the water-energy connection.

ACEEE, a nonprofit research organization, develops policies to reduce energy waste and combat climate change. Its independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

CFA is an association of more than 250 non-profit consumer and cooperative groups that was founded in 1968 to advance the consumer interest through research, advocacy, and education.

CR was founded in 1936 at a time when consumers had very few options to gauge the value, quality, or authenticity of goods and services. Today, CR's membership has grown to over 6 million members who fight with their voices and choices for a fair and just marketplace. As a mission-driven, independent, nonprofit member organization, CR continues to empower and inform consumers, incentivize corporations to act responsibly, and helps policymakers prioritize the rights and interests of consumers in order to shape a truly consumer-driven marketplace.

Earthjustice is the premier nonprofit public interest environmental law organization, wielding the power of law and the strength of partnership to protect people's health, to preserve magnificent places and wildlife, to advance clean energy, and to combat climate change.

NCLC has worked for consumer justice and economic security for low-income and other disadvantaged people in the U.S. since 1969 through its expertise in policy analysis and advocacy, publications, litigation, expert witness services, and training. Throughout its history, NCLC has advocated for policies and programs that increase energy efficiency in the homes of low-income consumers and that, therefore, reduce their energy bills.

NRDC is an international nonprofit environmental organization with more than 3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Beijing, and Delhi (an office of NRDC India Pvt. Ltd).

NEEA is a non-profit organization working to encourage the development and adoption of energy-efficient products, practices, and services. Funded by regional utilities, NEEA is a collaboration of 140 utilities and efficiency organizations working together to advance energy efficiency in the Northwest on behalf of more than 13 million consumers. This unique partnership has helped make the Northwest region a national leader in energy efficiency.

PG&E represents one of the largest combined gas and electric utilities in the Western U.S., serving over 16 million customers across northern and central California. As an energy company, PG&E advocates for appliance efficiency standards to cut costs and reduce consumption while maintaining or increasing consumer utility of products. PG&E has a responsibility to its customers to advocate for standards that accurately reflect the climate and conditions of its respective service areas.