compliance decision for this federal action.

**Federal Assistance Programs**

The title and number of the Federal assistance programs, as found in the Catalog of Federal Domestic Assistance, to which this NOFA applies is CFAP and 10.130.

**Stephen L. Censky,**

*Vice Chairman, Commodity Credit Corporation, and Deputy Secretary, U.S. Department of Agriculture.*

[FR Doc. 2020–11155 Filed 5–20–20; 4:15 pm]

**BILLING CODE 3410–05–P**

## DEPARTMENT OF ENERGY

### 10 CFR Parts 430 and 431

**[EERE–2016–BT–TP–0011]**

**RIN 1904–AD95**

## Energy Conservation Program: Test Procedures for Residential and Commercial Clothes Washers

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Request for information.

**SUMMARY:** The U.S. Department of Energy (''DOE'') is initiating a data collection process through this request for information (''RFI'') to consider whether to amend its test procedures for clothes washers. As part of this RFI, DOE seeks comment on whether there have been changes in product testing methodology or new products on the market since the last test procedure update that may create the need to make amendments to the test procedure for clothes washers. DOE also seeks data and information that could enable the agency to propose that the current test procedure produces results that are representative of an average use cycle for the product and is not unduly burdensome to conduct, and therefore does not need amendment. DOE requests comment on specific aspects of the current test procedure, including product definitions and configurations, testing conditions and instrumentation, measurement methods, representative usage and efficiency factors, and metric definitions. DOE also seeks comment on any additional topics that may inform DOE's decision whether to conduct a future test procedure rulemaking, including methods to ensure that the test procedure is reasonably designed to measure energy and water use during a representative average use cycle or period of use and is not unduly burdensome to conduct. DOE welcomes written comments from the public on any subject within the scope of this document (including topics not raised in this RFI).

**DATES:** Written comments and information are requested and will be accepted on or before June 22, 2020.

**ADDRESSES:** Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *http://www.regulations.gov.* Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2016–BT–TP–0011, by any of the following methods:

1. *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.

2. *Email: ResClothesWasher2016TP0011@ee.doe.gov.* Include docket number EERE–2016–BT–TP–0011 in the subject line of the message.

3. *Postal Mail:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE–5B, 1000 Independence Avenue SW, Washington, DC 20585–0121. Telephone: (202) 287–1445. If possible, please submit all items on a compact disc (''CD''), in which case it is not necessary to include printed copies.

4. *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza SW, Suite 600, Washington, DC 20024. Telephone: (202) 287–1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section IV of this document.

*Docket:* The docket for this activity, which includes **Federal Register** notices, comments, and other supporting documents/materials, is available for review at *http://www.regulations.gov.* All documents in the docket are listed in the *http://www.regulations.gov* index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at: *http://www.regulations.gov/#!docketDetail;D=EERE-2016-BT-TP-0011.* The docket web page contains simple instructions on how to access all documents, including public comments, in the docket. See section IV for information on how to submit comments through *http://www.regulations.gov.*

**FOR FURTHER INFORMATION CONTACT:** Mr. Bryan Berringer, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE–5B, 1000 Independence Avenue SW, Washington, DC 20585–0121. Telephone: (202) 586–0371. Email: *ApplianceStandardsQuestions@ee.doe.gov.*

Ms. Elizabeth Kohl, U.S. Department of Energy, Office of the General Counsel, GC–33, 1000 Independence Avenue SW, Washington, DC 20585–0121. Telephone: (202) 586–7796. Email: *Elizabeth.Kohl@hq.doe.gov.*

For further information on how to submit a comment or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287–1445 or by email: *ApplianceStandardsQuestions@ee.doe.gov.*

**SUPPLEMENTARY INFORMATION:**

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## I. Introduction

Residential clothes washers (''RCWs'') are included in the list of ''covered products'' for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6292(a)(7)) DOE's test procedures for RCWs are prescribed at 10 CFR 430.23(j) and appendices J1, J2, and J3 to subpart B of 10 CFR part 430. Commercial clothes washers (''CCWs'') are included in the list of ''covered equipment'' for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6311(1)(H)) The test procedures for CCWs must be the

same as those for established for RCWs. (42 U.S.C. 6314(a)(8)) The following sections discuss DOE's authority to establish and amend test procedures for RCWs and CCWs, as well as relevant background information regarding DOE's consideration of test procedures for these products.

*A. Authority*

The Energy Policy and Conservation Act of 1975, as amended (''EPCA'') [1] authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment, among other things. (42 U.S.C. 6291–6317) Title III, Part B [2] of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency. These consumer products include RCWs. (42 U.S.C. 6292(a)(7)) Title III, Part C [3] of EPCA, added by Public Law 95–619, Title IV, section 441(a), established the Energy Conservation Program for Certain Industrial Equipment. This equipment includes CCWs. (42 U.S.C. 6311(1)(H)) Both RCWs and CCWs are the subject of this RFI.

The energy conservation program under EPCA consists essentially of four parts: (1) Testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of the Act specifically include definitions (42 U.S.C. 6291; 42 U.S.C. 6311), energy conservation standards (42 U.S.C. 6295; 42 U.S.C. 6313), test procedures (42 U.S.C. 6293; 42 U.S.C. 6314), labeling provisions (42 U.S.C. 6294; 42 U.S.C. 6315), and the authority to require information and reports from manufacturers (42 U.S.C. 6296; 42 U.S.C. 6316).

Federal energy efficiency requirements for covered products and covered equipment established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297; 42 U.S.C. 6316(a) and (b)) DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6297(d); 42 U.S.C. 6316(b)(2)(D))

The Federal testing requirements consist of test procedures that manufacturers of covered products and covered equipment must use as the basis for: (1) Certifying to DOE that their products or equipment comply with the applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6295(s); 42 U.S.C. 6316(a)), and (2) making representations about the efficiency of those covered products or equipment (42 U.S.C. 6293(c); 42 U.S.C. 6314(d)). Similarly, DOE must use these test procedures to determine whether the products or equipment comply with relevant standards promulgated under EPCA. (42 U.S.C. 6295(s); 42 U.S.C. 6316(a))

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered products. EPCA requires that any test procedures prescribed or amended under this section be reasonably designed to produce test results which measure energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

If DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them. (42 U.S.C. 6293(b)(2))

In addition, EPCA requires that DOE amend its test procedures for all covered products, including RCWs, to integrate measures of standby mode and off mode energy consumption into the overall energy efficiency, energy consumption, or other energy descriptor, taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission (''IEC''), unless the current test procedure already incorporates the standby mode and off mode energy consumption, or if such integration is technically infeasible. (42 U.S.C. 6295(gg)(2)(A)) [4] [5] If an integrated test procedure is technically infeasible, DOE must prescribe separate standby mode and off mode energy use test procedures for the covered product, if a separate test is technically feasible. (*Id.*) As described in the following sections, DOE's current clothes washer test procedure includes provisions for measuring energy consumption in standby mode and off mode.

EPCA also requires that, at least once every 7 years, DOE evaluate test procedures for each type of covered product, including clothes washers, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle or period of use. (42 U.S.C. 6293(b)(1)(A)) If the Secretary determines, on his own behalf or in response to a petition by any interested person, that a test procedure should be prescribed or amended, the Secretary shall promptly publish in the **Federal Register** proposed test procedures and afford interested persons an opportunity to present oral and written data, views, and arguments with respect to such procedures. The comment period on a proposed rule to amend a test procedure shall be at least 60 days and may not exceed 270 days. In prescribing or amending a test procedure, the Secretary shall take into account such information as the Secretary determines relevant to such procedure, including technological developments relating to energy use or energy efficiency of the type (or class) of covered products involved. (42 U.S.C. 6293(b)(2)) If DOE determines that test procedure revisions are not appropriate, DOE must publish its determination not to amend the test procedures. DOE is publishing this RFI to collect data and information to inform its decision pursuant to the 7-year review requirement specified in EPCA. (42 U.S.C. 6293(b)(1)(A))

Additionally, EPCA requires the test procedures for CCWs to be the same as the test procedures established for RCWs. (42 U.S.C. 6314(a)(8)) As with the test procedures for RCWs, EPCA requires that DOE evaluate, at least once every 7 years, the test procedures for CCWs to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle. (42 U.S.C. 6314(a)(1)) This document also seeks input from the public to assist in a determination as to whether amendments to test procedures are necessary in the context of CCWs.

[1] All references to EPCA in this document refer to the statute as amended through America's Water Infrastructure Act of 2018, Public Law 115–270 (October 23, 2018).

[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

[3] For editorial reasons, upon codification in the U.S. Code, Part C was redesignated Part A–1.

[4] IEC Standard 62087 addresses the methods of measuring the power consumption of audio, video, and related equipment and is not relevant to clothes washers.

[5] EPCA does not contain an analogous provision for commercial equipment.

*B. Rulemaking History*

DOE originally established its clothes washer test procedure, codified at 10 CFR part 430, subpart B, appendix J (''Appendix J''), in a September 1977 final rule. 42 FR 49802 (Sept. 28, 1977). Since that time, the test procedure has undergone a number of amendments. In August 1997, DOE published a final rule (''August 1997 Final Rule'') amending Appendix J to include a measurement of remaining moisture content (''RMC'') to account for more efficient water extraction and to reflect changes in clothes washer features and consumer usage patterns, among other changes. 62 FR 45484 (Aug. 27, 1997). The August 1997 Final Rule also established an appendix J1 at 10 CFR part 430, subpart B (''Appendix J1''), which included a new definition of the energy test cycle, new energy test cloth pre-conditioning requirements, the use of a third load size (average load) for adaptive water fill control systems, a load size table for all clothes washers (including clothes washers with manual water fill control systems), and a simplified Temperature Use Factor (''TUF'') [6] table, among other minor technical changes. *Id.*

In the January 2001 Final Rule, DOE provided further minor technical amendments to Appendix J and Appendix J1, as well as a sunset provision specifying that the provisions of Appendix J would expire on December 31, 2003. 66 FR 3313. Additional amendments to Appendix J1 included, among other things, a methodology for developing correction factors for each new lot of test cloth to reduce variability in the RMC measurement due to differences in test cloth lots. *Id.*

In March 2012, DOE published a final rule (''March 2012 Final Rule'') amending Appendix J1 to expand the load size table to accommodate clothes washers with capacities up to 6 cubic feet (''cu.ft.'') as well as some other minor changes. 77 FR 13887 (March 7, 2012). The March 2012 Final Rule also established a new test procedure at 10 CFR part 430, subpart B, appendix J2 (''Appendix J2''), which incorporated the following amendments: (1) Provisions for measuring energy consumption in standby mode and off mode; (2) a more comprehensive efficiency metric for water consumption; (3) a more accurate reflection of consumer usage patterns; (4) revisions to the energy test cycle definition; (5) revisions to the capacity measurement method; (6) revisions related to the test cloth, including the preconditioning detergent and test equipment; (7) clarification of certain testing conditions and certain provisions of the test procedure; and (8) revisions to the calculation for annual operating cost. 77 FR 13887, 13891. The March 2012 Final Rule also removed the obsolete Appendix J. 77 FR 13887, 13892.

On August 5, 2015, DOE published a final rule (''August 2015 Final Rule'') that provided clarifying edits to Appendix J1 and Appendix J2. 80 FR 46729. The August 2015 Final Rule also moved the test cloth qualification procedures from Appendix J1 and Appendix J2 to a new test procedure at 10 CFR part 430, subpart B, appendix J3 (''Appendix J3''). The test cloth qualification procedure specifies a standard extractor RMC test to evaluate the moisture absorption and retention characteristics, and to develop a unique correction curve for each new lot of test cloth, which helps ensure that a consistent RMC measurement is obtained for any test cloth lot used during testing. This procedure is performed for each new lot of test cloth before the cloths can be used in the test procedure provisions that measure clothes washer performance; it is not performed as part of the testing required for any particular unit under test. Therefore, DOE moved the test cloth qualification procedure to the new Appendix J3 as a standalone test method to improve the clarity and overall logical flow of the Appendix J1 and Appendix J2 test procedures. *Id.* The correction factors developed for each new cloth lot are used to adjust the RMC measurements obtained when performing an Appendix J1 or Appendix J2 test on an individual clothes washer unit.

The current version of the test procedure at Appendix J2 includes provisions for determining modified energy factor (''MEF'') and integrated modified energy factor (''IMEF'') in cubic feet per kilowatt-hour per cycle (''cu.ft./kWh/cycle''); and water factor (''WF'') and integrated water factor (''IWF'') in gallons per cycle per cubic feet (''gal/cycle/cu.ft.''). RCWs manufactured on or after January 1, 2018 must meet current energy conservation standards, which are based on IMEF and IWF, as determined using Appendix J2. 10 CFR 430.23(j)(2)(ii) and (4)(ii); 430.32(g)(4) CCWs manufactured on or after January 1, 2018 must meet energy conservation standards for this equipment based on MEF [7] and IWF, which are also determined using Appendix J2. 10 CFR 431.154 and 10 CFR 431.156(b)

## II. Request for Information and Comments

As an initial matter, DOE seeks comment on whether there have been changes in product testing methodology or new products on the market since the last test procedure update. DOE also seeks data and information that could enable the agency to propose that the current test procedure produces results that are representative of an average use cycle for the product and is not unduly burdensome to conduct, and therefore does not need amendment. DOE also seeks information on whether an existing private-sector developed test procedure would produce such results and should be adopted by DOE rather than DOE establishing its own test procedure, either entirely or by adopting only certain provisions of one or more private-sector developed tests.

In the following sections, DOE has also identified a variety of issues on which it seeks input to determine whether amended test procedures for clothes washers would more accurately or fully comply with the requirements in EPCA that test procedures: (1) Be reasonably designed to produce test results which reflect energy use during a representative average use cycle, and (2) not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3), 6314(a)(2))

Additionally, DOE welcomes comments on other issues relevant to the conduct of this process that may not be specifically identified in this document. In particular, DOE notes that under Executive Order 13771, ''Reducing Regulation and Controlling Regulatory Costs,'' Executive Branch agencies such as DOE are directed to manage the costs associated with the imposition of expenditures required to comply with Federal regulations. 82 FR 9339 (Feb. 3, 2017). Consistent with that Executive Order, DOE also encourages the public to provide input on measures DOE could take to lower the cost of its regulations applicable to RCWs and CCWs, consistent with the requirements of EPCA.

[6] As described in more detail later in this document, TUFs are weighting factors that represent the percentage of wash cycles for which consumers choose a particular wash/rinse temperature selection.

[7] For CCWs, the energy conservation standards at 10 CFR 431.156 refer to MEF as ''$MEF_{J2}$'' to distinguish MEF as calculated using Appendix J2 from MEF as calculated from Appendix J1, which was the basis for energy conservation standards prior to January 1, 2018. Due to several differences (*e.g.,* the capacity measurement and the drying energy calculation), the MEF metrics in Appendices J1 and J2 are not equivalent.

*A. Scope & Definitions*

DOE defines ''clothes washer'' as a consumer product designed to clean clothes, utilizing a water solution of soap and/or detergent and mechanical agitation or other movement, and must be one of the following classes: Automatic clothes washers, semi-automatic clothes washers, and other clothes washers. 10 CFR 430.2

An ''automatic clothes washer'' is a class of clothes washer that has a control system that is capable of scheduling a preselected combination of operations, such as regulation of water temperature, regulation of the water fill level, and performance of wash, rinse, drain, and spin functions without the need for user intervention subsequent to the initiation of machine operation. Some models may require user intervention to initiate these different segments of the cycle after the machine has begun operation, but they do not require the user to intervene to regulate the water temperature by adjusting the external water faucet valves. Id.

A ''semi-automatic clothes washer'' is a class of clothes washer that is the same as an automatic clothes washer except that user intervention is required to regulate the water temperature by adjusting the external water faucet valves. Id.

''Other clothes washer'' means a class of clothes washer that is not an automatic or semi-automatic clothes washer. Id.

''Commercial clothes washer'' is defined as a soft-mount front-loading or soft-mount top-loading clothes washer that—

(A) has a clothes container compartment that—

(i) for horizontal-axis clothes washers, is not more than 3.5 cubic feet; and

(ii) for vertical-axis clothes washers, is not more than 4.0 cubic feet; and

(B) is designed for use in—

(i) applications in which the occupants of more than one household will be using the clothes washer, such as multi-family housing common areas and coin laundries; or

(ii) other commercial applications.

(42 U.S.C. 6311(21); 10 CFR 431.452).

*B. Test Procedure*

1. Connected Clothes Washers

DOE is currently aware of several ''connected'' RCW models on the market, from at least four major manufacturers. These products offer optional wireless network connectivity to enable features such as remote monitoring and control via smartphone, as well as limited demand response features [8] available through partnerships with a small number of local electric utilities. In addition, connected features are available via certain external communication modules for CCWs. However, DOE is not aware of any CCW models currently on the market that incorporate connected features directly into the unit.

DOE recently published an RFI on the emerging smart technology appliance and equipment market. 83 FR 46886 (Sept. 17, 2018). In that RFI, DOE sought information to better understand market trends and issues in the emerging market for appliances and commercial equipment that incorporate smart technology. DOE's intent in issuing the RFI was to ensure that DOE did not inadvertently impede such innovation in fulfilling its statutory obligations in setting efficiency standards for covered products and equipment.

*Issue II.B.1.* DOE seeks comments, data and information on the issues presented in the ''smart products'' RFI as they may be applicable to RCWs and CCWs.

*Issue II.B.2.* DOE requests feedback on its characterization of connected RCWs, and any CCWs, currently on the market. Specifically, DOE requests input on the types of features or functionality enabled by connected clothes washers that exist on the market or that are under development.

Section 3.2.7 of Appendix J2 specifies using the manufacturer default settings for any cycle selections except temperature selection, wash water fill level, or spin speed; and section 3.9.1 of Appendix J2 specifies performing the combined low-power mode testing without changing any control panel settings used for the active mode wash cycle. With regard to the measurement of network mode energy use, however, DOE stated in its 2012 rule (a conclusion not affected by the 2015 amendments), that ''DOE cannot thoroughly evaluate these [IEC Standard 62301 (Second Edition)] network mode provisions, as would be required to justify their incorporation into DOE's test procedures at this time. DOE notes that although an individual appliance may consume some small amount of power in network mode, the potential exists for energy-related benefits that more than offset this additional power consumption if the appliance can be controlled by the ''smart grid'' to consume power during non-peak periods. Although DOE is supportive of efforts to develop smart-grid and other network-enabled technologies in clothes washers, this final rule does not incorporate the network mode provisions due to the lack of available data that would be required to justify their inclusion.'' 77 FR 13888, 13900 (Mar. 7, 2012). Consistent with the goals of the ''smart products'' RFI, DOE will ensure that it does not impede innovation in the development of smart or connected products in considering any amendments to the test procedure for clothes washers with regard to measuring the energy use of connected features.

*Issue II.B.3.* DOE requests comment on whether changes to the current clothes washer test procedure would advance the goal of the ''smart products'' RFI. In particular, DOE seeks comment on adding a clarifying provision that would require testing to be conducted with any network functionality turned off, or without measuring or reporting the energy use of the clothes washer in network mode.

*Issue II.B.4.* DOE requests data on the percentage of users purchasing connected RCWs who activate the connected capabilities, and, for those users, the percentage of the time when the connected functionality of the RCW is activated and using additional energy.

DOE seeks to understand the potential effects of connected functionality as it relates to a clothes washer's energy use or energy efficiency, including the following:

- Hardware or software-related energy use implications of such features; for example, whether including communication chips on a circuit board could affect a product's energy consumption in standby mode.
- Consumer behavioral energy use implications of such features; for example, allowing the consumer to remotely activate a ''wrinkle prevention'' feature that periodically tumbles the drum after completion of a wash cycle would increase that cycle's energy use.
- Utility grid-level benefits enabled by such features; for example, using demand response capabilities to shift power loads from peak periods to off-peak periods and possibly automating cycle starts to coincide with periods of off-peak pricing.

*Issue II.B.5.* DOE requests data on the amount of additional or reduced energy use by connected clothes washers. DOE also requests data on the pattern of additional or reduced energy use; for example, whether it is constant, periodic, or triggered by the user.

[8] ''Demand response features'' refers to product functionality that can be controlled by the ''smart grid'' to improve the overall operation of the electrical grid, for example by reducing energy consumption during peak periods and/or shifting power consumption to off-peak periods.

*Issue II.B.6.* DOE requests information about which existing modes (*e.g.,* active, standby, off) are affected by connected functionality.

*Issue II.B.7.* DOE requests information on any existing testing protocols that account for connected features of clothes washers.

2. Testing Conditions, Instrumentation, and Installation

a. Hot Water Supply Temperature

Section 2.2 of Appendix J2 requires maintaining the hot water supply temperature between 130 degrees Fahrenheit (''°F'') (54.4 degrees Celsius (''°C'')) and 135 °F (57.2 °C), using 135 °F as the target temperature.

DOE has revised the hot water supply temperature requirements several times throughout the history of the clothes washer test procedure to remain representative of household water temperatures at the time of its analysis. When establishing the original clothes washer test procedure at Appendix J in 1977, DOE specified a hot water supply temperature of 140 °F ± 5 °F. In the August 1997 Final Rule, DOE specified in Appendix J1 that for clothes washers in which electrical energy consumption or water energy consumption is affected by the inlet water temperature,[9] the hot water supply temperature cannot exceed 135 °F (57.2 °C); and for other clothes washers, the hot water supply temperature is to be maintained at 135 °F ± 5 °F (57.2 °C ± 2.8 °C). 62 FR 45484, 45497. DOE maintained these same requirements in the original version of Appendix J2. In the August 2015 Final Rule, DOE adjusted the allowable tolerance of the hot water supply temperature in section 2.2 of Appendix J2 to between 130 °F (54.4 °C) and 135 °F (57.2 °C) for all clothes washers, but maintained 135 °F as the target temperature. 80 FR 46729, 46734.

DOE most recently analyzed household water temperatures as part of the consumer water heater test procedure rulemaking. In the July 11, 2014, consumer water heater test procedure final rule, DOE revised the hot water delivery temperature from 135 °F to 125 °F. 79 FR 40541, 40554. This change was primarily based on data available in DOE's analysis for the April 16, 2010, consumer water heater energy conservation standards final rule, which found that the average set point temperature for consumer water heaters in the field is 124.2 °F (51.2 °C). 75 FR 20111. Additionally, a 2011 compilation of field data across the United States and southern Ontario by Lawrence Berkeley National Laboratory (''LBNL'') [10] found a median daily outlet water temperature of 122.7 °F (50.4 °C). 79 FR 40541, 40554. Further, DOE noted in the consumer water heater energy conservation standards final rule that water heaters are commonly set with temperatures in the range of 120 °F to 125 °F. *Id.*

Additionally, DOE's consumer dishwasher test procedure, codified at 10 CFR part 430 subpart B, appendix C1, specifies a hot water supply temperature of 120 °F ± 2 °F for water-heating dishwashers designed for heating water with a nominal inlet temperature of 120 °F, which includes nearly all consumer dishwashers currently on the U.S. market.

*Issue II.B.8.* DOE requests comments on whether DOE should consider updating the hot water supply temperature for the clothes washer test procedure. DOE also requests information on the use of the current hot water supply temperature for clothes washers in relation to the consumer water heater and dishwasher test procedures. Specifically, DOE is interested in data and information on the hot water temperature used in practice, any potential impact to testing costs that may occur by harmonizing temperatures between the clothes washer and dishwasher test procedures, and the impacts on manufacturer burden associated with any changes to the hot water supply temperature.

Based on experience working with third-party test laboratories, as well as its own testing experience, DOE recognizes that maintaining 135 °F as the target temperature for the hot water supply may be difficult given that the target temperature of 135 °F lies at the edge, rather than the midpoint, of the allowable temperature range of 130 °F to 135 °F. On electronic temperature mixing valves typically used by test laboratories, the output water temperature is maintained within an approximately two-degree tolerance above or below a target temperature programmed by the user (*e.g.,* if the target temperature is set at 135 °F, the controller may provide water temperatures ranging from 133 °F to 137 °F). To ensure that the hot water inlet temperature remains within the allowable range of 130 °F to 135 °F, such a temperature controller would need to be programmed to 132.5 °F, the midpoint of the range, which conflicts with the test procedure requirement to use 135 °F as the target temperature. An analogous difficulty exists for the cold water inlet temperature. Section 2.2 of appendix J2 specifies maintaining a cold water temperature between 55 °F and 60 °F, using 60 °F as the target.

*Issue II.B.9.* DOE requests comments on whether it should consider any changes to the target temperature or allowable range of temperatures specified for the hot and cold water inlets, and if so what alternate specifications should be considered.

Changing the hot water supply temperature could change the relative hot and cold water usage of clothes washers with thermostatically controlled mixing valves, which includes nearly all clothes washers in the current market. If DOE were to update the supply water temperature, DOE would also investigate what impact, if any, such a change would have on a clothes washer's measured IMEF value. DOE seeks comment on such impact in response to this RFI.

*Issue II.B.10.* DOE requests comments on how any changes to the hot water supply temperature would impact a clothes washer's measured IMEF value.

b. Measuring Wash Water Temperature

In the August 2015 Final Rule, DOE amended section 3.3 of Appendix J2, ''Extra-Hot Wash/Cold Rinse,'' to allow the use of non-reversible temperature indicator labels to confirm that a wash temperature greater than 135 °F has been achieved. 80 FR 46729, 46753. Since the publication of the August 2015 Final Rule, DOE has become aware that some third-party laboratories measure wash temperature using self-contained temperature sensors in a waterproof casing placed inside the clothes washer drum.

*Issue II.B.11.* DOE requests comments on manufacturers' or test laboratories' experience with these or any other methods for determining the temperature during a wash cycle that may reduce manufacturer burden, including any information regarding the reliability and accuracy of those methods.

c. Water Meter Resolution

Appendix J2 requires the use of water meters to measure water flow and/or water consumption. Section 2.5.5 of Appendix J2 requires a resolution no larger than 0.1 gallons for the water meters, and a maximum error no greater than 2 percent of the measured flow rate. DOE has observed that some clothes washers use very small amounts of hot water on some temperature selections, on the order of 0.1 gallons or

[9] For example, water-heating clothes washers or clothes washers with thermostatically controlled water valves.

[10] Lutz, JD, Renaldi, Lekov A, Qin Y, and Melody M., ''Hot Water Draw Patterns in Single Family Houses: Findings from Field Studies,'' LBNL Report number LBNL–4830E (May 2011). Available at *http://www.escholarship.org/uc/item/2k24v1kj.*

less. For example, some clothes washers have both Cold and Tap Cold temperature selections, and the Cold selection may use a fraction of a gallon of hot water. DOE believes that Appendix J2 may not provide the necessary resolution to accurately and precisely measure the hot water usage of such temperature selections.

*Issue II.B.12.* DOE requests comments on the benefits and test burden of requiring a water meter with a resolution more precise than 0.1 gallons. Additionally, DOE requests comments on manufacturers' and testing laboratories' experiences in testing with a water meter with a resolution more precise than 0.1 gallons, including information on related testing burden and benefits.

d. Installation of Single-Inlet Clothes Washers

Section 2.10 of Appendix J2 provides specifications for installing a clothes washer, referencing both the hot water and cold water inlets. Additionally, section 2.5.5 of Appendix J2 specifies that a water meter must be installed in both the hot and cold water lines.

DOE is aware of RCWs on the market that have a single water inlet rather than separate hot and cold water inlets. DOE has observed two types of single-inlet RCWs: (1) Automatic clothes washers intended to be connected only to a cold water inlet, and which regulate the water temperature through the use of internal heating elements to generate any hot water used during the cycle; and (2) semi-automatic clothes washers that are intended to be connected to a kitchen or bathroom faucet, and which require user intervention to regulate the water temperature by adjusting the external water faucet valves.

*Issue II.B.13.* DOE requests input on whether any other types of single-inlet clothes washers exist on the market today or are under development.

For a single-inlet automatic clothes washer (*i.e.,* the first example described above), DOE understands that a ''Y''-shaped hose connector or other similar device may be provided by the manufacturer on some models to allow both water supply lines to be connected to the single inlet on the unit; however, other models may not include such a connector. DOE is considering whether testing single-inlet automatic clothes washers installed to only the cold water supply line during the test would be representative of the energy used during a representative average use cycle or period of use.

*Issue II.B.14.* DOE requests comments or information on how single-inlet automatic clothes washers are typically installed by customers. Specifically, DOE requests information on the percentage of single-inlet automatic clothes washers sold with a Y-shaped hose connector or similar such device; the extent that consumers use any provided device; and in instances in which no device is provided, whether it is typical for customers to connect the water inlet to a cold or hot water supply line.

For single-inlet semi-automatic clothes washers (*i.e.,* the second example described above), DOE has observed that these clothes washers are most often designed to be connected to a kitchen or bathroom faucet, with a single hose connecting the faucet to the single inlet on the clothes washer (*i.e.,* both cold and hot water are supplied to the clothes washer through a single hose). The user regulates the water temperature externally by adjusting the faucet to provide cold, warm, or hot water temperatures for the wash and rinse portions of the cycle. Appendix J2 specifies the use of two separate water supply connections, one for cold water and one for hot water. Connecting a single-inlet semi-automatic clothes washer to only a single water supply would limit the available water temperature to either 60 °F (provided by the cold water supply) or 135 °F (provided by the hot water supply). In effect, only Cold Wash/Cold Rinse or Hot Wash/Hot Rinse could be tested with a single-hose installation. Appendix J2 does not provide explicit direction on how to connect a single-inlet semi-automatic clothes washer to allow testing at other wash/rinse temperatures. DOE seeks data on whether, and if so how, consumers using this type of clothes washer adjust the water temperature for the wash and rinse portions the cycle. Section II.B.6 of this document provides further details on wash/rinse temperature selections for semi-automatic clothes washers. DOE also seeks comment on how such clothes washers are currently tested.

*Issue II.B.15.* DOE requests comments, data, and information on the typical connection and representative average use of single-inlet semi-automatic clothes washers. Additionally, DOE requests information on how manufacturers are currently testing single-inlet semi-automatic clothes washers under Appendix J2.

e. Discarding Test Data Due to Anomalous Behavior of Unit Under Test

Section 3.2.9 of appendix J2 specifies to ''discard the data from a wash cycle that provides a visual or audio indicator to alert the user that an out-of-balance condition has been detected, or that terminates prematurely if an out-of-balance condition is detected, and thus does not include the agitation/tumble operation, spin speed(s), wash times, and rinse times applicable to the wash cycle under test.'' Aside from out-of-balance conditions, DOE seeks input on whether the test procedure should also require discarding data for wash cycles in which any other anomalous behavior may be observed. DOE also requests information on whether the test procedure should be clarified to explicitly require that any wash cycle for which data was discarded due to anomalous behavior must also be repeated to obtain data without the anomalous behavior to be included in the energy test cycle.

*Issue II.B.16.* DOE requests comment on whether the test procedure should exclude data from wash cycles in which any other type of anomalous behavior aside from out-of-balance conditions is observed. If so, DOE requests further comment on how such anomalies could be defined in the test procedure and detected by the testing party, particularly when testing only a single unit of a basic model (*i.e.,* with no basis for comparison against other units of the same basic model to determine whether the observed behavior is anomalous). DOE additionally requests comment on whether the test procedure should clarify that any wash cycle for which data was discarded due to anomalous behavior must be repeated to obtain valid data for that wash cycle without such anomalous behavior.

3. Test Cloth

a. Specifications

DOE originally developed the energy test cloth specifications as part of the January 2001 Final Rule, based on the results of a detailed investigation of the cloth material used for testing.[11] In particular, DOE observed that the material properties of the energy test cloth had a significant effect on the RMC measurement,[12] which was added to Appendix J1 to measure the effectiveness of the final spin cycle in

[11] *Development of a Standardized Energy Test Cloth for Measuring Remaining Moisture Content in a Residential Clothes Washer.* U.S. Department of Energy: Buildings, Research and Standards. May 2000. Available online at *http://www.regulations.gov/document?D=EERE-2006-STD-0064-0277.*

[12] The RMC measurement is an important aspect of DOE's clothes washer test procedure because the RMC value determines the drying energy, which is the biggest contributor to IMEF. Based on the Technical Support Documents from the March 2012 Final Rule, the drying energy represents 65 percent of the total energy for a 2015 baseline-level top-loading standard RCW, and 72 percent for a 2015 baseline-level front-loading standard RCW.

removing moisture from the wash load. As described in the test cloth report, the final specifications for the energy test cloth were developed to provide for the representativeness of the test cloth to a consumer load: A 50-percent cotton/50-percent polyester blended material was specified to approximate the typical mix of cotton, cotton/polyester blend, and synthetic articles that are machine-washed by consumers. DOE also considered:

- Manufacturability: A 50/50 cotton-polyester momie weave was specified because at the time, such cloth was produced in high volume, had been produced to a consistent specification for many years, and was expected to be produced on this basis for the foreseeable future.
- Consistency in test cloth production: The cloth material properties were specified in detail, including fiber content, thread count, and fabric weight; as well as requirements to verify that water repellent finishes are not applied to the cloth.
- Consistency of the RMC measurement among different lots: A procedure was developed to generate correction factors for each new ''lot'' (*i.e.,* batch) of test cloth to normalize test results and ensure consistent RMC measurements regardless of which lot is used for testing.

DOE understands that the qualification process for new test cloth lots may be burdensome and that delays in the process may periodically lead to shortages of test cloth available for purchase. Furthermore, it is possible that different energy test cloth specifications could more optimally balance the various factors addressed by the test cloth specification.

*Issue II.B.17.* DOE requests comments on manufacturers' and testing laboratories' experience using the current test cloth specifications and whether DOE should consider any changes to the energy test cloth specifications to reduce burden and improve testing results. DOE also seeks comment on whether it is necessary to specify any qualification procedure that must be conducted on all new lots of energy test cloth prior to use of such test cloths, as opposed to simply providing requirements for the test cloth without specifying in DOE's regulations the procedure for achieving those requirements. Industry could then continue with its current pre-qualification process, making changes as it determined necessary to improve that process, without the need to seek permission from DOE and participate in a rulemaking proceeding to make such improvements.

b. Uniformity Test

Appendix J3 specifies a qualification procedure that must be conducted on all new lots of energy test cloth prior to use of such test cloths. This qualification procedure provides a set of correction factors that correlate the measured RMC values of the new test cloth lot with a set of standard RMC values established as the historical reference point. These correction factors are applied to the RMC test results in section 3.8.2.6 of appendix J2 to ensure the repeatability and reproducibility of test results performed using different lots of test cloth. The measured RMC of each clothes washer has a significant impact on the final IMEF value.

Industry has developed a process in which this qualification test is performed by a third-party laboratory, and the results are reviewed and approved by the AHAM Test Cloth Task Force, after which the new lot of test cloth is made available for purchase by manufacturers and test laboratories.

DOE has received a request from members of the AHAM Test Cloth Task Force to add to Appendix J3 an additional qualification procedure that has historically been performed on each new lot of test cloth to ensure uniformity of RMC test results on test cloths from the beginning, middle, and end of each new lot. Industry practice is to perform this uniformity test before conducting the procedure to develop the RMC correction factors currently specified in the DOE test procedure, as described above. Specifically, the uniformity test involves performing an RMC measurement on nine bundles of sample cloth representing the beginning, middle, and end locations of the first, middle, and last rolls of cloth in a new lot. The coefficient of variation across the nine RMC values must be less than or equal to 1 percent for the test cloth lot to be considered acceptable for use.

*Issue II.B.18.* DOE requests comments on whether it is necessary to incorporate the aforementioned test cloth uniformity test into Appendix J3, or whether the current regulations, with the existing requirements for test cloth and qualification procedure, are sufficient to ensure the quality of the test cloth. DOE requests comment on any burden that results from the current qualification procedure, or would result from incorporating the discussed uniformity test, particularly for small businesses. As noted above, DOE also seeks comment on whether it is necessary to specify any qualification procedure that must be conducted on all new lots of energy test cloth prior to use of such test cloths, as opposed to simply providing requirements for the test cloth without specifying in DOE's regulations the procedure for achieving those requirements. Industry could then continue with its current pre-qualification process, making changes as it determined necessary to improve that process, without the need to seek permission from DOE and participate in a rulemaking proceeding to make such improvements.

c. Consolidation Into Appendix J3

Several provisions within Appendix J2 that pertain to the energy test cloth are applicable to each new lot of test cloth, but are not required to be conducted again for each individual clothes washer test performed under Appendix J2. For example, section 2.7.4.6 of Appendix J2 specifies performing American Association of Textile Chemists and Colorists (''AATCC'') Test Method 118–2007 and AATTCC Test Method 79–2010 (incorporated by reference in 10 CFR 430.3) to verify that water-repellent finishes, such as fluoropolymer stain resistant finishes, are not applied to the test cloth.

Based on discussions with the AHAM Test Cloth Task Force, DOE is aware that these AATCC test methods, among other test cloth provisions in section 2.7 of Appendix J2, are performed by a third-party laboratory on each new lot of test cloth, along with the RMC tests described previously. Once the absence of water-repellent finishes has been verified for the new lot of test cloth, the AATCC tests do not need to be conducted again for each individual Appendix J2 clothes washer test performed by manufacturers or test laboratories.

*Issue II.B.19.* DOE requests comments on whether to consolidate into Appendix J3 provisions from section 2.7 of Appendix J2 that relate only to the testing of the manufactured test cloth, and are not required to be performed for each individual Appendix J2 clothes washer test. DOE also seeks comment on whether to remove these provisions entirely (see Issues II.B.17 and II.B.18).

4. Capacity Measurement Alternatives

Section 3.1 of Appendix J2 provides the procedure for measuring the clothes container capacity, which represents the maximum usable volume for washing clothes. In the March 2012 Final Rule, DOE revised the clothes container capacity measurement to better reflect the actual usable capacity compared to the previous measurement procedures.

77 FR 13887, 13917. In the August 2015 Final Rule, DOE further clarified the capacity measurement procedure by incorporating a revised description of the maximum fill volume for front-loading clothes washers, as well as illustrations of the boundaries defining the uppermost edge of the clothes container for top-loading vertical-axis clothes washers and the maximum fill volume for horizontal-axis clothes washers. 80 FR 46729, 46733.

Measuring the clothes container capacity involves filling the clothes container with water and using the weight of the water to determine the volume of the clothes container. For front-loading clothes washers, this procedure requires positioning the clothes washer on its back surface such that the door opening of the clothes container faces upwards and is leveled horizontally.

DOE is aware that for some front-loading clothes washers, positioning the clothes washer on its back surface may be impractical or unsafe, particularly for very large or heavy clothes washers or those with internal components that could be damaged by the procedures outlined in section 3.1 of Appendix J2. On other clothes washers, filling the clothes container volume as described could be difficult or impractical, particularly for clothes washers with concave or otherwise complex door geometries.

Recognizing these challenges, DOE is considering whether to allow manufacturers to determine the clothes container capacity by performing a calculation of the volume based upon computer-aided design (''CAD'') models of the basic model in lieu of physical measurements of a production unit of the basic model. DOE allows a CAD-based approach for consumer refrigerators, refrigerator-freezers, and freezers, as specified at 10 CFR 429.27(c).[13]

*Issue II.B.20.* DOE requests comments on whether to allow CAD-based determination of clothes container capacity for clothes washers in lieu of physical measurements of a production unit of the basic model. DOE requests comments on the impacts on manufacturer burden associated with any such change to the capacity measurement procedure.

As the clothes washer market evolves to include clothes washers with increasingly larger capacities, DOE understands that for larger-capacity clothes washers, the capacity value as measured by Appendix J2, which is intended to reflect the maximum usable volume, may not necessarily result in a test method that measures the energy efficiency and water use of the clothes washer during a representative average use cycle or period of use.

In addition, DOE understands that in Europe and elsewhere (*e.g.,* the United Arab Emirates, Australia, and New Zealand), clothes washer capacity is represented in terms of the weight of clothing (*e.g.,* kilograms or pounds) that may be washed, rather than the physical volume of the clothes container. Furthermore, some international test procedures allow for the clothes washer capacity to be declared by the manufacturer, representing the maximum weight of clothing that the clothes washer is designed to successfully clean.

Some of the alternate representations of clothes washer capacity that DOE could consider include:

- A weight-based capacity, such as pounds of clothing, which could be derived from the measured volume of the clothes container in a similar manner to the way that the maximum test load is currently specified in Table 5.1 of Appendix J2 based on the measured clothes container volume.
- A clothes container capacity that is declared by the manufacturer using an industry-standard methodology. For example, IEC Standard 60456, ''Clothes washing machines for household use—Methods for measuring the performance'' Edition 5.0 (''IEC Standard 60456 Edition 5.0'') provides two optional methodologies for determining test load mass, using either table tennis balls or water.[14]

*Issue II.B.21.* DOE requests comment on whether to consider any changes to the representation of clothes washer capacity, including, but not limited to, a weight-based capacity or manufacturer-declared capacity based on an industry-standard methodology. Specifically, DOE requests comment on whether the two methodologies provided in IEC Standard 60456 Edition 5.0 provide capacity measurements that result in a test method that measures the energy use of the clothes washer during a representative average use cycle or period of use.

5. Cycle Selection and Settings

a. Representative Average Use

DOE recently issued an RFI to seek more information on whether its test procedures are reasonably designed, as required by EPCA, to produce results that measure the energy use or efficiency of a product during a representative average use cycle or period of use. 84 FR 9721 (Mar. 18, 2019). DOE seeks comment on this issue as it pertains to the test procedure for clothes washers, and specifically to all of the issues and comment requests set forth in the following paragraphs.

b. Load Sizes for Available Minimum and Maximum Fill Levels

Table 2.8 within section 2.8 of Appendix J2 requires that, for clothes washers with manual water fill control systems, each temperature selection that is part of the energy test cycle be tested using both the minimum and maximum water fill levels, using the minimum and maximum load sizes, respectively.[15] Section 3.2.6 of Appendix J2 describes these water fill levels as the minimum and maximum water levels available for the wash cycle under test. DOE has observed at least one clothes washer with electronic controls in which the maximum water fill level on the unit cannot be selected (*i.e.,* is ''locked out'') with one of the temperature selections required for testing; on that temperature setting, the maximum water fill that can be selected is one of the intermediate fill levels on the unit. The resulting water fill level (which is a significantly lower fill level) is thus misaligned with the maximum load size required for that particular cycle under test. Using a maximum load size with an intermediate water fill level may not provide results that measure energy efficiency and water use during a representative average use cycle or period of use, since the locking out of the maximum water fill level indicates that the particular temperature selection is not intended to be used with a maximum load size. More generally, electronic controls on such a clothes washer could lock out either the minimum or maximum water fill level available on the unit from any of the

[13] Under this approach, any value of total refrigerated volume of a basic model reported to DOE in a certification of compliance in accordance with § 429.14(b)(2) must be calculated using the CAD-derived volume(s) and the applicable provisions in the test procedures in 10 CFR part 430 for measuring volume, and must be within two percent, or 0.5 cubic feet (0.2 cubic feet for compact products), whichever is greater, of the volume of a production unit of the basic model measured in accordance with the applicable test procedure in 10 CFR part 430. See 10 CFR 429.72(c)

[14] For the table tennis ball approach, the clothes container is filled with specified table tennis balls, and an empirically determined equation is provided to convert the number of balls into a capacity value. The water approach is similar to the approach provided in section 3.1 of Appendix J2.

[15] In calculating the weighted energy consumption of a clothes washer with a manual water control system, load usage factors are applied to the minimum test loads (0.28) and maximum test loads (0.72), as described further in section II.B.7.b of this RFI. The load usage factors were based on Procter & Gamble field usage data when Appendix J was initially established. 42 FR 49802, 49809

temperature selections required for testing under Appendix J2, rendering the resulting water fill level for that temperature selection inappropriate for the maximum (or minimum) load size defined for the unit.

DOE previously addressed the issue of locked-out water fill levels in a notice of proposed rulemaking (''NOPR'') published on May 24, 1995. 60 FR 27442, 27444. At that time, three manufacturers expressed concern about the possibility of a maximum water level being locked out. DOE stated that it was not aware of any products employing such lockout designs at that time, but should such designs emerge, they could be addressed in a future rulemaking. *Id.*

DOE welcomes input from interested parties on how the test procedure should accommodate locked-out water fill levels required for testing. As discussed, the current test procedure requires that the maximum load size be tested with the maximum water fill level available in combination with the selected temperature selection, which may be a lower fill level than the maximum available on the machine and not intended for maximum size clothing loads. DOE would consider other approaches that would produce results that measure energy efficiency or water use during a representative average use cycle or period of use for this category of clothes washer.

*Issue II.B.22.* DOE requests comments on how clothes washers with locked-out water fill levels could be tested. DOE also requests data on the water level that consumers use on this type of clothes washer when a specific water level is locked-out.

c. Locked-Out Spin Settings

Section 3.8.4 of Appendix J2 requires that for clothes washers that have multiple spin settings [16] available within the energy test cycle that result in different RMC values, the maximum and minimum extremes of the available spin settings must be tested on the Cold/Cold temperature selection. The final RMC is the weighted average of the maximum and minimum spin settings, with the maximum spin setting weighted at 75 percent and the minimum spin setting weighted at 25 percent. DOE is aware of clothes washers on the market that offer multiple spin settings, but which offer only the maximum spin setting on the Cold/Cold temperature selection; *i.e.,* the minimum spin setting is locked out of the Cold/Cold temperature selection. This results in the lower spin setting not being factored into the RMC calculation, despite being available at other temperature selections in the energy test cycle. According to the TUF Table 4.1.1 in Appendix J2, the Cold/Cold temperature selection represents 37 percent of consumer temperature selections, with the other available temperature selections, for which the lower spin settings are available, representing a combined 63 percent of clothes washer cycles.

*Issue II.B.23.* DOE requests comment on testing for clothes washers that offer only the maximum spin setting on the Cold/Cold temperature selection but provide lower spin settings on other temperature selections. For example, RMC could be measured at the default spin setting for each temperature selection, and averaged using the TUFs. DOE requests data on the extent to which this or any other suggested approach measures the energy use of the clothes washer during a representative average use cycle or period of use. DOE also seeks data on the burden that may be added or reduced as a result of these other testing configurations.

*Issue II.B.24.* DOE requests input on whether any changes to the RMC measurement are warranted to address the issue of locked-out spin settings, taking into account the requirements that the test procedure must be reasonably designed to measure the energy use of the clothes washer during a representative average use cycle or period of use and not be unduly burdensome to conduct.

d. Four or More Warm/Cold Temperature Selections

Section 3.5 of Appendix J2 states that for a clothes washer that offers four or more Warm Wash/Cold Rinse temperature selections, either all discrete selections shall be tested, or the clothes washer shall be tested at the 25-percent, 50-percent, and 75-percent positions of the temperature selection device between the hottest hot (≤135 °F (57.2 °C)) wash and the coldest cold wash. If a selection is not available at the 25, 50 or 75-percent position, in place of each such unavailable selection, the next warmer temperature selection shall be used. Hereafter in this document, DOE refers to the latter provision as the ''25/50/75 test.''

DOE introduced the 25/50/75 test in the original version of Appendix J1, as established by the August 1997 Final Rule, out of concern regarding the test burden for clothes washers that offer a large number of intermediate warm wash temperature selections, if the test procedure were to require testing all intermediate warm temperature selections. 62 FR 45484, 45497. DOE had originally proposed a similar method [17] in the April 22, 1996 supplemental NOPR (''April 1996 SNOPR'') preceding the August 1997 Final Rule, for clothes washers having infinite warm wash selections that are non-uniformly distributed. 61 FR 17589, 17599. In the August 1997 Final Rule, DOE agreed with a suggested option to consider clothes washers with more than three warm wash temperatures to be clothes washers with infinite warm wash temperature selections, therefore allowing them to also use the 25/50/75 test. 62 FR 45484, 45498. DOE concluded at that time that testing at the various test points of the temperature range, with a requirement to test to the next higher selection if a temperature selection is not available at a specified test point, would provide data representative of the warm wash temperature selection offerings. *Id.*

DOE notes that the 25/50/75 test was adopted before the widespread use of electronic controls, which now allow for the assignment of wash water temperatures that may not reflect the physical spacing between temperature selections on the control panel. For example, with electronic controls, the 25-percent, 50-percent, and 75-percent positions on the dial may not necessarily correspond to 25-percent, 50-percent, and 75-percent temperature differences between the hottest and coldest selections. DOE is aware of clothes washers on the market with four or more warm wash temperature selections, in which the temperature selections located at the 25, 50, and 75-percent positions are low-temperature cycles that have wash temperatures only a few degrees higher than the coldest wash temperature; whereas the temperature selection labeled ''Warm'' is located beyond the 75 percent position on the temperature selection dial and is therefore not included for testing under the 25/50/75 test.

*Issue II.B.25.* DOE requests feedback on the representativeness of using the 25/50/75 test on clothes washers with electronic controls; particularly for clothes washers in which the 25-percent, 50-percent, and 75-percent positions on the dial do not correspond to 25-percent, 50-percent, and 75-percent temperature increments between the hottest and coldest selections.

[16] The term ''spin settings'' refers to spin times or spin speeds. The maximum spin setting results in a lower (better) RMC.

[17] The originally proposed test would have required testing at the 20/40/60/80 percent positions.

*Issue II.B.26.* DOE also seeks information on alternative approaches for testing clothes washers with four or more Warm Wash/Cold Rinse temperature selections that would ensure that the test procedure is reasonably designed to measure the energy use of the clothes washer during a representative average use cycle or period of use, and is not unduly burdensome to conduct. Specifically, DOE requests comment on whether there is a less burdensome means for the test procedure to be reasonably designed to measure energy use or efficiency of the clothes washer during a representative average use cycle.

e. Clothes Washers That Generate All Hot Water Internally

DOE is aware of clothes washers on the market that draw only cold water and internally generate all hot water that may be required for a cycle by means of internal heating elements. As observed on the market, these clothes washers offer cold, warm, hot, and extra hot temperature selections. As part of determining the Cold Wash/Cold Rinse temperature selection, the instruction box in the flowchart in Figure 2.12.1 of Appendix J2 refers to ''. . . multiple wash temperature selections in the Normal cycle [that] do not use any hot water for any of the water fill levels or test load sizes required for testing . . .'' DOE is considering rephrasing the text in Figure 2.12.1 of Appendix J2 to say ''. . . use *or internally generate* any heated water . . .'' (emphasis added) so that the wording of the Cold Wash/Cold Rinse flowchart in Figure 2.12.1 of Appendix J2 explicitly addresses these clothes washers. This change would reflect DOE's interpretation of the current Cold Wash/Cold Rinse flowchart and subsequent flowcharts for the Warm Wash and Hot Wash temperature selections for this type of clothes washer.

*Issue II.B.27.* DOE requests input on revising the phrasing of Figure 2.12.1 of Appendix J2 to specifically address the test method for clothes washers that internally generate all hot water used for a cycle by means of internal heating elements. DOE also seeks comment on whether and if so, to what extent, this change would affect the measured energy use of these clothes washers as compared to the current test procedure.

f. Non-Conventional Water Fill Control Systems

Classification of Water Fill Control Systems

Table 2.8 of Appendix J2 prescribes the required test load sizes based on the type of water fill control system (''WFCS'') on the clothes washer. Appendix J2 defines two main types of WFCS: Manual WFCS and automatic WFCS, which includes adaptive WFCS and fixed WFCS. Section 3.2.6.2 of Appendix J2 further distinguishes between user-adjustable and not-user-adjustable automatic WFCSs. Additionally, section 3.2.6.3 of Appendix J2 accommodates clothes washers that have both an automatic WFCS and an alternate manual WFCS.

As electronic control panels become more sophisticated, determining which type of WFCS is used in a particular clothes washer can be difficult. Furthermore, the use of an electronic control panel enables a clothes washer to have combinations of WFCSs that were previously unforeseen and therefore not addressed in the test procedure (*e.g.,* multiple different adaptive WFCSs, or both adaptive and fixed WFCSs). The following are examples of such clothes washers that DOE has observed on the market:

*Example #1:* A clothes washer that uses an adaptive WFCS but includes an optional cycle modifier, most typically in the form of a control panel button, that affects the water level by adding either more or less water than would otherwise be used by the adaptive WFCS. DOE has observed several types of such optional cycle modifiers, such as ''deep fill'' and ''water plus,'' which use more water than the default adaptive WFCS; and ''eco,'' which uses less water than the default adaptive WFCS.

*Example #2:* A clothes washer that defaults to a fixed maximum water level if the user takes no action (*i.e.,* a fixed WFCS), and that offers a single optional button that provides a lower fill level than the default fill level if activated.

*Example #3:* A clothes washer with a control panel that allows the user to choose between two separate automatic WFCSs: One of which is an adaptive WFCS, and the other is a fixed WFCS that provides the maximum fill level regardless of load size (*e.g.,* ''deep fill'').

*Example #4:* A clothes washer with a control panel that allows the user to choose between two separate adaptive WFCSs: One that provides more efficient performance; and the other that provides higher fill levels, both of which adapt to the size of the clothing load.

*Example #5:* A clothes washer with a separate cycle labeled ''deep fill,'' as an alternative to the Normal cycle.

*Issue II.B.28.* DOE requests input on whether any changes are warranted for the definitions of automatic WFCS, manual WFCS, adaptive WFCS, and fixed WFCS, specifically in the context of clothes washers currently on the market, and whether the current definitions appropriately reflect the products currently available. DOE also requests input on whether a definition of user-adjustable automatic WFCS should be considered, and if so, how it could be defined to best reflect the type of user-adjustable WFCSs currently on the market. Comments are also welcome on whether a less complex method of WFCS differentiation could be used that would still result in the test procedure being reasonably designed to measure energy efficiency and water use of clothes washers during a representative average use cycle or period of use, and not be unduly burdensome to conduct.

*Issue II.B.29.* As an alternative to considering revisions to the definitions of each type of WFCS, DOE could consider alternate approaches, such as using a flow chart—similar to the energy test cycle flowcharts in section 2.12 of Appendix J2—to guide the determination of which type of WFCS is available on a clothes washer. DOE requests comment on such an approach.

*Issue II.B.30.* DOE requests input on an approach that would result in a measurement of energy and water use during a representative average use cycle for clothes washers with unconventional WFCSs, such as in the examples provided, including the impacts on manufacturer burden associated with any such approach.

Test Cycles and Calculations

Section 3.2.6.3 of Appendix J2 states that if a clothes washer with an automatic WFCS allows consumer selection of manual controls as an alternative, both the manual and automatic modes are tested. The energy and water consumption values are measured separately under each mode and then averaged; the average values are then used in the final calculations in section 4 of Appendix J2. The averaging of each value implies a 50-percent usage factor for each of the available WFCSs on the clothes washer.

Section 3.2.6.2.2 of Appendix J2 provides instructions for a clothes washer with a user-adjustable automatic WFCS. For this type of WFCS, four tests are conducted: (1) The first test uses the maximum test load and the automatic WFCS set in the setting that will give the most energy intensive result; (2) the second test uses the minimum test load and the automatic WFCS set in the setting that will give the least energy intensive result; (3) the third test uses the average test load and the automatic WFCS set in the setting that will give the most energy intensive result for the

given test load; and (4) the fourth test uses the average test load and the automatic WFCS set in the setting that will give the least energy intensive result for the given test load. The energy and water consumption for the average test load are the average of the third and fourth tests' results.

*Issue II.B.31.* DOE requests comment on whether the above test procedure requiring four separate tests meets the EPCA requirements of measuring the energy and water use during a representative average use cycle and not being unduly burdensome to conduct, and whether an approach that required less than four tests would meet this EPCA requirement.

*Issue II.B.32.* DOE requests comments on the representativeness of the WFCS setting and load size combinations tested for clothes washers with both automatic and manual WFCSs, as well as clothes washers with user-adjustable automatic WFCSs.

g. Wash Time Setting

Section 3.2.5 of Appendix J2 defines how to select the wash time setting on a clothes washer. If no one wash time is prescribed for the wash cycle under test, the wash time setting is the higher of either the minimum or 70 percent of the maximum wash time available, regardless of the labeling of suggested dial locations. Hereafter in this document, DOE refers to this provision as the ''70-percent test.''

In the March 2012 Final Rule, DOE added instructions to the wash time section of Appendix J1 and Appendix J2 that specified the direction of rotation of electromechanical dials, and that the 70-percent test applies regardless of the labeling of suggested dial locations. 77 FR 13887, 13927. In the August 2015 Final Rule, DOE specified that, if 70-percent of the maximum wash time is not available on a dial with a discrete number of wash time settings, the next-highest setting greater than 70-percent must be chosen. 80 FR 46729, 46745. DOE is considering, as described in the following sections, whether additional changes to section 3.2.5 of Appendix J2 are warranted to provide further clarity, particularly with regard to how the wash time setting should be interpreted for electronic control dials.

Clarification for Electronic Cycle Selection Dials

DOE has observed on the market clothes washers that have an electronic cycle selection dial designed to visually simulate a conventional electromechanical dial.[18] In particular, DOE has observed clothes washers with an electronic dial that offers multiple Normal cycle selections; for example, ''Normal-Light,'' ''Normal-Medium,'' and ''Normal-Heavy,'' with the descriptor referring to the soil level of the clothing. On such clothes washers, the only difference between the three Normal cycles apparent to consumers when performing each cycle may be the wash time, although other less observable parameters may also differ. Although the electronic dial simulates the visual appearance of an electromechanical dial, the electronic dial is programmed with a pre-established set of wash cycle parameters, including wash time, for each of the discrete cycle selections presented on the machine. For this type of cycle selection dial, each of the discrete cycle selection options represents a selectable ''wash cycle'' as referred to in section 3.2.5 of Appendix J2, and a wash time is prescribed for each available wash cycle. Therefore, for clothes washers with this type of electronic dial, the wash cycle selected for testing must correspond to the wash cycle that meets the definition of Normal cycle in section 1.25 of Appendix J2. The wash time setting thus would be the prescribed wash time for the selected wash cycle; *i.e.,* the 70-percent test would not apply to this type of dial. DOE is considering whether any changes to section 3.2.5 of Appendix J2 are warranted to qualify further which type of dial would be subject to the 70-percent test.

*Issue II.B.33.* DOE requests feedback on whether section 3.2.5 of Appendix J2 should be further clarified regarding electronic cycle selection dials that visually simulate conventional electromechanical dials.

Direction of Dial Rotation

Section 3.2.5 of Appendix J2 also states that, for clothes washers with electromechanical dials controlling wash time, the dial must be turned in the direction of increasing wash time to reach the appropriate wash time setting. DOE is aware that not all electromechanical dials currently on the market can be turned in the direction of increasing wash time. On such models, the dial can only be turned in the direction of decreasing wash time. DOE believes that the direction of rotation need only be prescribed on a clothes washer with an electromechanical dial that can rotate in both directions. Therefore, DOE is considering further amending section 3.2.5 of Appendix J2 to clarify that the requirement to rotate the dial in the direction of increasing wash time applies only to dials that can rotate in both directions.

*Issue II.B.34.* DOE requests comment on its understanding of the functioning of dials currently on the market, specifically with regard to the direction(s) of rotation and whether the wording of section 3.2.5 of Appendix J2 warrants revision to clarify that the requirement to rotate the dial in the direction of increasing wash time applies only to dials that can rotate in both directions.

''Wash Time'' Terminology

Finally, DOE is considering whether to state that the phrase ''wash time'' in section 3.2.5 of Appendix J2 refers to the period of agitation or tumble. This clarification would be consistent with the historical context of this section of the test procedure. In Appendix J as established by the September 1977 Final Rule, section 2.10 *Clothes washer setting* defined ''wash time'' as the ''period of agitation.'' As part of the January 2001 Final Rule, DOE amended section 2.10 of Appendix J by renaming it *Wash time (period of agitation or tumble) setting.*[19] 66 FR 3313, 3330. When establishing Appendix J1 in the August 1997 Final Rule, DOE did not include reference to ''period of agitation'' in section 2.10 of Appendix J1. 62 FR 45484, 45510. DOE did not address this difference from Appendix J in the preamble of the August 1997 Final Rule or the NOPRs that preceded that final rule, but given the continued reference to ''wash time'' in Appendix J1, did not intend to change the general understanding that wash time refers to the wash portion of the cycle, which includes agitation or tumble time. DOE has since further amended section 2.10 of both Appendix J1 and Appendix J2 as part of the March 2012 Final Rule and August 2015 Final Rule (in which section 2.10 was renumbered as section 3.2.5), with no discussion in these final rules of the statement that remained in Appendix J, where wash time referred to agitation or tumble time. DOE further notes that in current RCW models on the market, agitation or tumble may be

[18] On most electromechanical dials, the rotational position of the dial corresponds to the desired wash time. The user rotates the dial from the initial ''off'' position to the desired wash time position, and after starting the wash cycle, the dial rotates throughout the progression of the wash cycle until it reaches the off position at the end of the cycle. In contrast, an electronic dial contains a fixed number of selectable positions, and the dial remains in the selected position for the duration of the wash cycle.

[19] In this context, ''agitation'' refers to the wash action of a top-loading clothes washer, whereas ''tumble'' refers to the wash action of a front-loading clothes washer.

periodic or continuous during the wash portion of the cycle.

*Issue II.B.35.* DOE requests feedback on whether DOE should consider reincorporating language into section 3.2.5 of Appendix J2 to clarify that the term ''wash time'' refers to the wash portion of the cycle, including agitation or tumble time.

h. Optional Cycle Modifiers

Section 3.2.7 of Appendix J2 states that for clothes washers with electronic control systems, the manufacturer default settings must be used for any cycle selections, except for (1) the temperature selection, (2) the wash water fill levels, or (3) if necessary, the spin speeds on wash cycles used to determine RMC. Specifically, the manufacturer default settings must be used for wash conditions such as agitation/tumble operation, soil level, spin speed on wash cycles used to determine energy and water consumption, wash times, rinse times, optional rinse settings, water heating time for water-heating clothes washers, and all other wash parameters or optional features applicable to that wash cycle. Any optional wash cycle feature or setting (other than wash/rinse temperature, water fill level selection, or spin speed on wash cycles used to determine RMC) that is activated by default on the wash cycle under test must be included for testing unless the manufacturer instructions recommend not selecting this option, or recommend selecting a different option, for washing normally soiled cotton clothing.

*Issue II.B.36.* DOE seeks comment on whether testing of cycle settings other than the manufacturer default settings would measure the energy efficiency and water use of the clothes washer during a representative average use cycle or period of use. DOE also seeks comment on whether the non-default selections required by the current DOE test procedure meet this requirement.

DOE has observed a trend towards increased availability of optional cycle modifiers such as ''deep fill,'' as described previously in this document, and ''extra rinse,'' among others. These optional settings may significantly impact the water and/or energy consumption of the clothes washer when activated. DOE has observed that the default setting of these optional settings on the Normal cycle is most often in the off position; *i.e.,* the least energy- and water-intensive setting. The growing presence of such features may, however, be indicative of an increase in consumer demand and/or usage of these features.

*Issue II.B.37.* DOE requests information regarding how frequently consumers use ''deep fill,'' ''extra rinse,'' or other cycle modifiers, as well as whether (and if so, by how much) such modifiers may increase the energy or water consumption of a wash cycle compared to the default settings on the Normal cycle. DOE also requests comment on whether testing these features in the default settings would produce test results that measure energy efficiency and water use of clothes washers during a representative average use cycle or period of use, and the burden of such testing on manufacturers.

6. Wash/Rinse Temperature Selections for Semi-Automatic Clothes Washers

Section II.B.2.d of this document discussed the installation of single-inlet semi-automatic clothes washers. This section discusses the wash/rinse temperature selections and TUFs applicable to all semi-automatic clothes washers. Semi-automatic clothes washers are defined at 10 CFR 430.2 as a class of clothes washer that is the same as an automatic clothes washer except that user intervention is required to regulate the water temperature by adjusting the external water faucet valves. DOE's test procedure requirements at 10 CFR 430.23(j)(2)(ii) state that the use of Appendix J2 to determine IMEF is required for both automatic and semi-automatic clothes washers. Similarly, the IWF measurement requirements at 10 CFR 430.23(j)(3)(ii) apply to ''clothes washer[s],'' which is defined in 10 CFR 430.2 to include semi-automatic clothes washers.

Semi-automatic clothes washers do not provide wash/rinse temperature selections on the control panel, and any combination of cold, warm, and hot wash temperatures and rinse temperatures can be implemented by the user. The following discussion provides relevant historical context on this issue.

Section 6.1 of Appendix J–1977 [20] and Appendix J–1997 provided TUFs for the following wash/rinse temperature combinations for semi-automatic clothes washers: Hot/Hot, Hot/Warm, Hot/Cold, Warm/Warm, Warm/Cold, and Cold/Cold. The definition of these TUFs indicated that these six wash/rinse temperature combinations were required for testing. Section 3.2.2.6 of Appendix J–1977 and Appendix J–1997 and section 3.2.3.1.6 of Appendix J1–1997 and Appendix J1–2001 provided a table indicating the following external water faucet valve positions required to achieve each wash and rinse temperature selection:

- *Hot:* Hot valve completely open, cold valve closed;
- *Warm:* Hot valve completely open, cold valve completely open; and
- *Cold:* Hot valve closed, cold valve completely open.

Under Appendix J–1977 and Appendix J–1997, the Hot/Hot, Warm/Warm, and Cold/Cold temperature combinations were tested for semi-automatic clothes washers without regulating the water temperature between the wash and rinse portions of the cycle. However, for the Hot/Warm, Hot/Cold, and Warm/Cold temperature combinations to be tested, Appendix J–1977 and Appendix J–1997 required the test administrator to manually regulate the water temperature in between the wash and rinse portions of the cycle by adjusting the external water faucet valves. As reflected in DOE's definition of semi-automatic clothes washer, user intervention is required to regulate the water temperature of all semi-automatic clothes washers (*i.e.,* user regulation of water temperature is the distinguishing characteristic of a semi-automatic clothes washer).

When it established Appendix J1–1997, DOE combined all of the TUF tables—for both automatic and semi-automatic clothes washers—that were also provided in section 5 and section 6 of Appendix J–1997 into a single condensed table in Table 4.1.1 of Appendix J1–1997. 62 FR 45484, 45512. In contrast to Appendix J–1997, which provided separate TUF tables for every possible set of available wash/rinse temperature selections, the new simplified table in Appendix J1–1997 was organized into columns based on the number of wash temperature selections available on a clothes washer. Warm rinse was considered separately within each column of the table. *Id.* In the current version of Appendix J2, Table 4.1.1 remains a single simplified table, although in the August 2015 Final Rule, DOE clarified the column headings by listing the wash/rinse temperature selections applicable to each column. 80 FR 46729, 46782.

The simplified Table 4.1.1 in Appendix J2 does not state which column(s) of the table are applicable to semi-automatic clothes washers. In the May 2012 Direct Final Rule, DOE stated that it was not aware of any semi-automatic clothes washers on the

[20] Throughout this section, to distinguish different versions of each test method, DOE uses the following nomenclature: Appendix [letter]-[year of amendment]. For example, the original version of Appendix J is referred to as Appendix J–1977. The version as amended by the August 1997 Final Rule is referred to as Appendix J–1997, and so forth.

market. 77 FR 32307, 32317. However, DOE is currently aware of several semi-automatic clothes washer model available in the U.S. market.

*Issue II.B.38.* DOE requests input on whether the test procedure should be amended with regard to the specificity of wash/rinse test combinations for semi-automatic clothes washers in Appendix J2, and whether those updates would provide test results that measure energy efficiency and water use during a representative average use cycle or period of use, and whether they would be unduly burdensome to conduct.

7. Usage Factors

DOE requests information on whether, in accordance with 42 U.S.C. 6293(b)(3), the consumer usage factors incorporated into the test procedure produce test results that measure energy efficiency and water use of clothes washers during a representative average use cycle or period of use. DOE also seeks comment on whether testing cycle configurations with usage factors below a certain percentage would be unduly burdensome to conduct and would not be considered to be reasonably designed to measure energy and water use during a representative average use cycle or period of use because they are rarely used by consumers.

a. Temperature Usage Factors

As described in section II.B.6 of this document, TUFs are weighting factors that represent the percentage of wash cycles for which consumers choose a particular wash/rinse temperature selection. The TUFs in Table 4.1.1 of Appendix J2 are based on the TUFs introduced in Appendix J1–1997 by the August 1997 Final Rule. As described in the April 1996 SNOPR, DOE established the TUFs in Appendix J1–1997 based on an analysis of consumer usage data provided by Procter & Gamble (''P&G''), the Association of Home Appliance Manufacturers (''AHAM''), General Electric Company (''GE''), and Whirlpool Corporation (''Whirlpool''), as well as linear regression analyses performed by P&G and the National Institute of Standards and Technology (''NIST''). 61 FR 17589, 17593. DOE understands that consumer usage patterns may have changed since the introduction of Table 4.1.1 in Appendix J1–1997.

DOE recognizes that some possible combinations of wash/rinse temperature selections that could be offered on a clothes washer are not represented in Table 4.1.1 (*e.g.,* the current table would not accommodate a clothes washer that offers only Extra-Hot/Cold and Cold/Cold wash/rinse temperature selections).

*Issue II.B.39.* DOE requests data on current consumer usage frequency of the wash/rinse temperature selections required for testing in Appendix J2.

*Issue II.B.40.* DOE requests input on whether requiring measurement of cycle selections with low TUFs (for example, the current Table 4.1.1 lists TUFs including 5, 9, and 14 percent) is consistent with the EPCA requirement that the test procedure be reasonably designed to measure the energy use or efficiency of the clothes washer during a representative average use cycle or period of use, and not be unduly burdensome to conduct.

*Issue II.B.41.* DOE requests information on whether any combinations of wash/rinse temperature selections not currently represented in Table 4.1.1 of Appendix J2 exist. DOE also seeks data to support how the TUFs for such combinations could be defined to ensure that the test procedure measures energy and water consumption during a representative average use cycle or period of use. DOE also seeks comments on whether any of the combinations in Table 4.1.1 should be removed as not reasonably designed to measure the energy use of the clothes washer during a representative average use cycle or period of use.

For semi-automatic clothes washers, DOE is considering whether amendments with regard to the specificity of wash/rinse temperature combinations and associated TUFs for semi-automatic clothes washers in Appendix J2 would provide test results that are reasonably designed to measure energy and water consumption during a representative average use cycle or period of use. As discussed in section II.B.6 of this RFI, Appendix J specified TUFs for semi-automatic clothes washers for six wash/rinse temperature combinations. Appendix J2 does not currently provide separate TUFs for semi-automatic clothes washers. Because the wash and rinse temperatures on a semi-automatic clothes washer are controlled directly by the consumer by adjusting the hot and cold water faucets, DOE understands that the appropriate TUFs for semi-automatic clothes washers that best reflect energy and water consumption during a representative average use cycle or period of use may be different from those of automatic clothes washers.

*Issue II.B.42.* DOE requests input on whether to specify TUFs for semi-automatic clothes washers in Appendix J2, and if so, how the TUFs should be defined to be reasonably designed to measure energy and water consumption during a representative average use cycle or period of use for semi-automatic clothes washers.

b. Load Usage Factors

Load Usage Factors (''LUFs'') are weighting factors that represent the percentage of wash cycles that consumers run with a given load size. Table 4.1.3 of Appendix J2 provides two sets of LUFs based on whether the clothes washer has a manual WFCS or automatic WFCS.

For a clothes washer with a manual WFCS, the two LUFs represent the percentage of wash cycles for which consumers choose the maximum water fill level and minimum water fill level, regardless of the actual load size. For a clothes washer with an automatic WFCS, the three LUFs represent the percentage of cycles for which the consumer washes a minimum-size, average-size, and maximum-size load. The values of these LUFs are intended to approximate a normal distribution that is slightly weighted towards the minimum load size. This distribution is based on consumer load size data provided by P&G in support of the development of Appendix J1–1997.[21]

*Issue II.B.43.* DOE requests data on current consumer usage as related to the LUFs and whether any updates to the LUFs in Table 4.1.3 of Appendix J2 are warranted to reflect current consumer usage patterns. DOE specifically requests comment on whether the use of certain LUFs in the test procedure is consistent with the EPCA requirement that the test procedure be reasonably designed to measure energy and water use during a representative average use cycle or period of use without being unduly burdensome to conduct, because certain load sizes may be rarely used by consumers.

c. Load Size Table

Table 5.1 of Appendix J2 provides the minimum, average, and maximum load sizes to be used for testing based on the measured capacity of the clothes washer. The table defines capacity ''bins'' in 0.1 cu.ft. increments. The load sizes for each capacity bin are determined as follows:

- Minimum load is 3 pounds (''lb'') for all capacity bins;
- Maximum load (in lb) is equal to 4.1 times the mean clothes washer

[21] The P&G load size data are provided on pages 13–20 in legacy Docket EE–RM–94–230A Comment 25, which is archived on the *regulations.gov* website under Docket EERE–2006–TP–0065 Comment 27. Available at *https://www.regulations.gov/document?D=EERE-2006-TP-0065-0027*.

capacity of each capacity bin (in cu.ft.); and

• Average load is the arithmetic mean of the minimum load and maximum load.

DOE originally introduced the load size table in Appendix J1 in the August 1997 Final Rule, which accommodated clothes container capacities up to 3.8 cu.ft. This load size table was provided by AHAM as part of AHAM's recommended test procedure changes for Appendix J1, as described in the April 1996 SNOPR. 61 FR 17589, 17595.

In the March 2012 Final Rule, DOE expanded Table 5.1 to accommodate clothes container capacities up to 6.0 cu.ft. 77 FR 13887, 13910. DOE extrapolated the load sizes to 6.0 cu.ft. using the same equations to define the maximum and average load sizes as described previously.

On May 2, 2016 and April 10, 2017, DOE granted waivers to Whirlpool and Samsung Electronics America Inc., respectively, for testing RCWs with capacities between 6.0 and 8.0 cu.ft.,[22] by further extrapolating Table 5.1 using the same equations to define the maximum and average load sizes as described previously. 81 FR 26215, 82 FR 17229. DOE's regulations in 10 CFR 430.27 contain provisions allowing any interested person to seek a waiver from the test procedure requirements if certain conditions are met. A waiver allows manufacturers to use an alternative test procedure in situations where the DOE test procedure cannot be used to test the product or equipment, or where use of the DOE test procedure would generate unrepresentative results. 10 CFR 430.27(a)(1) DOE's regulations at 10 CFR 430.27(l) require that as soon as practicable after the granting of any waiver, DOE will publish in the **Federal Register** a NOPR to amend its regulations so as to eliminate any need for the continuation of such waiver. As soon thereafter as practicable, DOE will publish in the **Federal Register** a final rule. Therefore, DOE will consider amending its test procedure to accommodate RCWs with capacities up to 8.0 cu.ft. as part of a future rulemaking.

Note that section II.B.4 of this document provides additional discussion regarding potential alternative approaches for representing clothes container capacity that DOE could consider, which might suggest a different solution for addressing larger-capacity clothes washers than extrapolation of the existing Table 5.1.

*Issue II.B.44.* DOE requests comment on whether Table 5.1 of Appendix J2 should be extrapolated to accommodate RCW capacities up to 8.0 cu.ft., and if so, appropriate methods for extrapolation. More generally, DOE also requests data and information on whether the minimum, average, and maximum load size definitions in Table 5.1 are representative of the range of load sizes used by consumers for each capacity bin in the table, particularly for larger-capacity RCWs.[23]

d. Dryer Usage Factor

The dryer usage factor (''DUF'') represents the percentage of clothes washer loads dried in a clothes dryer. The DUF is used in section 4.3 of Appendix J2 in the equation for calculating the per-cycle energy required to remove the remaining moisture of the test load (*i.e.,* ''drying energy'').

DOE first introduced the drying energy equation in Appendix J1 as part of the August 1997 Final Rule. DOE originally established a DUF value of 0.84, which was based in part on data provided by P&G, as described in the April 1996 SNOPR. 61 FR 17589, 17592; 62 FR 45484, 45489.

In the March 2012 Final Rule, DOE revised the DUF in Appendix J2 to 0.91 based on updated consumer usage data from the Energy Information Administration (''EIA'') 2005 Residential Energy Consumption Survey (''RECS''). 77 FR 13887, 13913.

*Issue II.B.45.* DOE specifically requests comment on whether the DUF in the test procedure is consistent with the EPCA requirement that the test procedure be reasonably designed to measure energy and water use during a representative average use cycle or period of use without being unduly burdensome to conduct, because certain drying cycles may be rarely used by consumers. DOE also requests data and information on whether any further adjustments to the DUF are warranted to reflect current consumer usage patterns.

e. Spin Speed Usage Factors

Section 3.8.4.1 of Appendix J2 provides weighting factors for calculating the RMC value for clothes washers that have options such as multiple spin speeds or spin time settings that result in different RMC values, and that are available within the energy test cycle. The equation in section 3.8.4.1 of Appendix J2 assigns a 75-percent usage factor to the maximum spin setting and a 25-percent usage factor to the minimum spin setting. In originally establishing the spin setting usage factors in Appendix J–1997, DOE considered P&G usage factor data for normal/regular cycle usage (in which maximum water extraction is assumed) as compared to delicate and permanent-press cycle usage (in which minimum water extraction is assumed). 62 FR 45484, 45489; see also AHAM comment in docket EE–RM–94–230A, pp. 2 and 8.[24] DOE determined that the consumers washing less durable articles of clothing would refrain from using a higher spin cycle to prevent possible fabric damage, and that the spin setting usage factors correlated to the use of normal/regular cycle usage as compared to delicate and permanent-press cycle usage. *Id.*

Note that section II.B.5.c of this document provides additional discussion regarding potential alternative approaches that DOE could consider for clothes washers with multiple spin speeds, which might suggest a different solution than maintaining the existing spin speed usage factors.

*Issue II.B.46.* DOE requests data and information on whether current consumer usage patterns warrant any adjustments to the spin speed usage factors. In particular, DOE requests consumer usage data regarding the selection of spin speeds on clothes washers that offer multiple spin speeds, and particularly the percentage of wash cycles for which consumers use the default spin settings. DOE also requests comment on whether the use of certain spin speed usage factors in the test procedure is consistent with the EPCA requirement that the test procedure be reasonably designed to measure energy and water use during a representative average use cycle or period of use without being unduly burdensome to conduct, because certain spin speeds may be rarely used by consumers.

f. Annual Number of Wash Cycles

Section 4.4 of Appendix J2 provides the representative average number of annual clothes washer cycles for the purpose of translating the annualized inactive and off mode energy consumption measurements into a per-cycle value applied to each active mode wash cycle. Separately, the number of annual wash cycles is also referenced in DOE's test procedure provisions at 10 CFR 430.23(j)(1)(i)(A) and (B), (j)(1)(ii)(A) and (B), and (j)(3)(i) and (ii) for the purpose of calculating annual

[22] As noted, CCWs are limited under the statutory definition to a maximum capacity of 3.5 cubic feet for horizontal-axis CCWs and 4.0 cubic feet for vertical-axis CCWs. 42 U.S.C. 6311(21).

[23] DOE notes that the load size definitions could be considered independently from, or in conjunction with, the LUFs, as described in the previous section of this document.

[24] Available at: *https://www.regulations.gov/document?D=EERE-2006-TP-0065-0011.*

operating cost and annual water consumption of a clothes washer.

In the August 1997 Final Rule, DOE estimated the representative number of annual wash cycles per RCW to be 392, which represented the average number of cycles per year from 1986 through 1994, based on P&G survey data provided to DOE as described in a NOPR published on March 23, 1995. 60 FR 15330, 15335; 62 FR 45484, 45501.

In the March 2012 Final Rule, DOE updated the representative number of wash cycles per year to 295 based on an analysis of the 2005 RECS data. 77 FR 13887, 13909. More recently, analysis of the 2009 RECS data suggests 284 cycles per year, and analysis of the 2015 RECS data (the most recent available) suggests 234 cycles per year.

*Issue II.B.47.* DOE requests data and information on whether any further adjustments to the number of annual wash cycles are warranted to reflect current RCW consumer usage patterns, as suggested by RECS data.

g. Low-Power Mode Usage Factors

Section 4.4 of Appendix J2 allocates 8,465 combined annual hours for inactive and off modes. If a clothes washer offers a switch, dial, or button that can be optionally selected by the user to achieve a lower-power inactive/off mode than the default inactive/off mode, section 4.4 assigns half of those hours (*i.e.,* 4,232.5 hours) to the default inactive/off mode and the other half to the optional lowest-power inactive/off mode. This allocation is based on an assumption that if a clothes washer offers such a feature, consumers will select the optional lower-power mode half of the time. 77 FR 13887, 13904. The allocation of 8,465 hours to combined inactive and off modes is based on an assumption of 295 active mode hours (assuming one hour per active mode wash cycle), for a total of 8,760 hours per year for all operating modes.

*Issue II.B.48.* DOE requests input on whether the annual hours allocated to combined inactive and off modes, as well as the assumed 50-percent split between default inactive/off mode and any optional lower-power inactive/off mode, result in a test method that measures the energy efficiency of the clothes washer during a representative average use cycle or period of use and would not be unduly burdensome to conduct.

8. Associated Equipment Efficiencies

a. Water Heater Efficiencies

Section 4.1.2 of Appendix J2 provides equations for calculating total per-cycle hot water energy consumption for all water fill levels tested. The hot water energy consumption is calculated by multiplying the measured volume of hot water by a constant fixed temperature rise of 75 °F and by the specific heat of water, defined as 0.00240 kilowatt-hours per gallon per degree Fahrenheit (kWh/gal-°F). No efficiency or loss factor is included in this calculation, which implies an electric water heater efficiency of 100 percent.

Similarly, section 4.1.4 of Appendix J2 provides an equation for calculating total per-cycle hot water energy consumption using gas-heated or oil-heated water, for product labeling requirements.[25] This equation includes a multiplication factor ''e,'' representing the nominal gas or oil water heater efficiency, defined as 0.75.

These water-heating energy equations estimate the energy required by the household water heater to heat the hot water used by the clothes washer. Per-cycle hot water energy consumption is one of the four energy components in the IMEF metric.

*Issue II.B.49.* DOE requests input on whether any updates are warranted to the water heater efficiency values implied in section 4.1.2 and provided in section 4.1.4 of Appendix J2.

b. Drying Energy

Section 4.3 of Appendix J2 provides an equation for calculating total per-cycle energy consumption for removal of moisture from the test load in a clothes dryer; *i.e.,* the ''drying energy.'' The drying energy calculation is based on the following three factors: (1) A clothes dryer final RMC of 4 percent; (2) a clothes dryer energy factor (''DEF''), which is defined as 0.5 kWh/lb and represents the nominal energy required for a clothes dryer to remove moisture from a pound of clothes; and (3) the DUF which, as described previously in this document, is defined as 0.91 and represents the percentage of clothes washer loads dried in a clothes dryer. DOE is soliciting information to determine whether the final RMC value after drying and the DEF value should be revised as a result of recent updates to the DOE clothes dryer test procedure and any market changes due to the most recent energy conservation standards for clothes dryers.

DOE's test procedure for clothes dryers, codified at 10 CFR part 430, subpart B, appendix D1 (''Appendix D1''), prescribes a final RMC of between 2.5 and 5.0 percent, which is consistent with the 4-percent final RMC value in the clothes washer test procedure for determination of the DEF. However, DOE's alternate clothes dryer test procedure, codified at 10 CFR part 430, subpart B, appendix D2 (''Appendix D2''), prescribes a final RMC of between 1 and 2.5 percent for timer dryers, which are clothes dryers that can be preset to carry out at least one operation to be terminated by a time, but may also be manually controlled and do not include any automatic termination function. For automatic termination control dryers, which can be preset to carry out at least one sequence of operations to be terminated by means of a system assessing, directly or indirectly, the moisture content of the load, the test cycle is deemed invalid if the clothes dryer terminates the cycle at a final RMC greater than 2 percent. In the final rule establishing Appendix D2, DOE determined that a clothes dryer final RMC of 2 percent using the DOE test load would be more representative of clothes dryers currently on the market in that generally consumers would find a final RMC above this level unacceptable. Timer dryers are provided with a range of allowable final RMC during the test because DOE concluded that it would be unduly burdensome to require the tester to dry the test load to an exact RMC; however, the measured test cycle energy consumption for timer dryers is normalized to calculate the energy consumption required to dry the test load to 2-percent final RMC. 78 FR 49607, 49612–49624 (Aug. 14, 2013). Manufacturers may elect to use Appendix D2 to demonstrate compliance with the January 1, 2015, energy conservation standards; however, the procedures in Appendix D2 need not be performed to determine compliance with energy conservation standards for clothes dryers at this time.

*Issue II.B.50.* DOE requests input on whether the final RMC value in the drying energy calculation in Appendix J2 should be revised to align with the DOE clothes dryer test procedure at Appendix D2 or another value that is representative of clothes dryers currently on the market.

*Issue II.B.51.* DOE requests input on whether the current value of the DEF is representative of the nominal energy required for a clothes dryer to remove moisture from a pound of clothes, or whether an alternative value would be more representative.

[25] The Federal Trade Commission's EnergyGuide label for RCWs includes the estimated annual operating cost using natural gas water heating.

9. Non-Conventional Features

a. Clothes Washers With an Additional Wash System

DOE is aware of ''auxiliary'' or ''supplementary'' RCWs designed to accompany a standard-size RCW from the same manufacturer. In one configuration, a top-loading wash drum (*i.e.,* ''auxiliary'' clothes washer) is integrated into the top of a standard-size front-loading clothes washer (*i.e.,* ''primary'' clothes washer). The primary front-loading clothes washer and the auxiliary top-loading clothes washer are powered through a single electrical plug; however, the primary clothes washer and the auxiliary clothes washer have separate control systems and can be operated independently from one another. Another configuration comprises a top-loading RCW sold as a separate product (*i.e.,* ''supplementary'' clothes washer) with independent controls and a separate electrical plug, and which is designed to be installed underneath certain front-loading RCWs within the space of a conventional pedestal or riser.

Because such auxiliary and supplementary clothes washers are installed in conjunction with a primary clothes washer, the presence and operation of two separate clothes washers may affect consumer usage patterns for both the primary and auxiliary or supplementary clothes washers, compared to if the consumer had only a primary clothes washer. For example, separating certain items from a clothing load to be washed in the auxiliary or supplementary clothes washer would reduce the size of the clothing load washed in the primary clothes washer or could result in fewer cycles being run in the primary clothes washer.

Additionally, in the case of an auxiliary clothes washer, which is integrated with the primary clothes washer and powered through a single electrical plug, the standby power might be ''double counted'' for both the primary clothes washer and the auxiliary clothes washer, since the standby power consumed by both clothes washers would be measured through the single electrical plug during both independent tests.

*Issue II.B.52.* DOE requests information on whether or how the presence of an auxiliary or supplementary clothes washer may affect usage patterns in the primary clothes washer.

*Issue II.B.53.* DOE requests input on the appropriate allocation of combined low-power mode energy consumption between auxiliary and primary clothes washers that are powered through a single electrical plug.

b. Clothes Washers With a Pre-Treat Soaking Basin

DOE is aware of RCWs that contain a built-in basin that can be used to pre-treat and soak clothing before the start of a wash cycle. As observed among models currently on the market, the soaking basin is separate from the main clothing drum and is filled with water through an auxiliary water nozzle separate from the water fill control system used for the main clothing drum. As described in the user manual, the pre-treat and soaking feature is recommended to be used before the RCW begins its main wash cycle operation. As observed among models currently on the market, use of the built-in basin and auxiliary water nozzle are not considered part of active washing mode, as defined by section 1.2 of Appendix J2.

*Issue II.B.54.* DOE requests consumer usage data on built-in pre-treat soak basins, as well as information on the amount of energy and water these basins typically use. DOE also requests information on whether and to what extent the energy and water use in the subsequent wash cycle would be impacted by the transfer of water and wet clothing from the pre-treat basin to the clothes washer drum.

*C. Metrics*

In addition to adjustments to the current test procedure to produce MEF, IMEF, and IWF values that reflect current clothes washers and consumer use, DOE may also consider in a future rulemaking broader changes to key metrics that would, for example, harmonize the DOE test procedure with other industry test methods. In particular, DOE may consider changes to the energy efficiency metric and the water efficiency metric. DOE may also consider adjustments to the annual energy calculation.

1. Energy Efficiency Metric

The current energy efficiency standards for RCWs are based on the IMEF metric, measured in cu.ft./kWh/cycle, as calculated in section 4.6 of Appendix J2. IMEF is calculated as the capacity of the clothes container (in cu.ft.) divided by the total clothes washer energy consumption (in kWh) per cycle. The total clothes washer energy consumption per cycle is the sum of: (a) The machine electrical energy consumption; (b) the hot water energy consumption; (c) the energy required for removal of the remaining moisture in the wash load; and (d) the combined low-power mode energy consumption.

The current energy efficiency standards for CCWs are based on the $MEF_{J2}$ metric, measured in cu.ft./kWh/cycle, as determined in section 4.5 of Appendix J2. The $MEF_{J2}$ metric differs from the IMEF metric by not including the combined low-power mode energy consumption in the total clothes washer energy consumption per cycle.

DOE could consider changing the energy efficiency metrics for RCWs or CCWs to maintain consistency with any changes to the capacity metric or for other reasons. For example, the $MEF_{J2}$ or IMEF metric could be modified to incorporate a capacity based on weight of clothing, as described previously in this document, which would result in an $MEF_{J2}$ or IMEF expressed in terms of pounds of clothing per kWh per cycle.

*Issue II.C.1.* DOE requests feedback on whether to consider any changes to the energy efficiency metric defined in the test procedure, including the drivers for such a change and the form of a new metric.

2. Water Efficiency Metric

The current water efficiency standards for both RCWs and CCWs are based on the IWF metric, measured in gal/cycle/cu.ft, as calculated in section 4.2.13 of Appendix J2. IWF is calculated as the total weighted per-cycle water consumption (in gallons) for all wash cycles divided by the capacity of the clothes container (in cu.ft.). Unlike the IMEF metric, in which a higher number indicates more efficient performance, a lower IWF value indicates more efficient performance. DOE could consider inverting the existing calculation such that a higher value of IWF would represent more efficient performance, which would provide greater consistency with the IMEF metric.

*Issue II.C.2.* DOE requests feedback on whether to consider any changes to the water efficiency metric defined in the test procedure to maintain consistency with any changes to the capacity metric or for any other purpose, including those described for the energy efficiency metric, and whether it would be appropriate to invert the existing calculation such that a higher value of IWF would represent more efficient performance.

3. Annual Energy Calculation

The annual energy consumption of an RCW is calculated as part of the estimated annual operating cost calculations at 10 CFR 430.23(j)(1)(ii)(A)

and (B).[26] In each equation, annual energy consumption is calculated by multiplying the per-cycle energy consumption [27] by the representative average RCW use of 295 cycles per year. The annual operating cost is provided to the consumer on the Federal Trade Commission (''FTC'') EnergyGuide label for RCWs.

DOE could consider changes to the method for calculating annual energy use to ensure that the calculation results in a measurement of energy use during a representative average use cycle. DOE may also consider changes to the overall calculation methodology that could improve the usefulness of the information presented to the consumer on the product label.

An increasingly wide range of RCW capacities are available on the market, ranging from less than 1 cu.ft. to greater than 6 cu.ft. When DOE originally developed the annual energy calculation methodology at 10 CFR 430.23(j)(1)(i), the test procedure accommodated clothes washers with capacities up to 3.8 cu.ft.[28] According to the current calculation methodology, all RCWs are assumed to be used for 295 cycles per year, while the per-cycle energy reflects a weighted-average load size based on the clothes washer capacity. Therefore, the annual energy calculation reflects an annual volume of laundered clothing that scales with clothes washer capacity. The increasing range of RCW capacities available on the market may mean that the total amount of laundered clothing reflected in the annual energy calculation is no longer reflective of energy use during a representative average use cycle of RCWs of different sizes. For example, the current annual energy calculation methodology is based on an annual laundry volume of 2,258 pounds for a 3-cu.ft. RCW and 4,036 pounds for a 6-cu.ft. RCW.

This potential disparity is particularly notable when comparing the product labels of two RCW models with the same IMEF efficiency rating, but different capacities. Under the current annual energy calculation methodology, the information presented on the product label would indicate that the larger-capacity RCW would use significantly more annual energy than the smaller-capacity model; however, the larger RCW's label would be based on a significantly larger amount of annual laundry than the smaller model, as illustrated above. If compared on the basis of an equivalent volume of laundered clothing, both RCWs could be expected to use the same amount of annual energy since they have the same IMEF efficiency rating. This potential disparity may limit the ability of an individual consumer to use the information presented on the product label to compare the differences in expected energy use among RCW models with the same rated energy efficiency but different capacities.

Given the increasingly wide range of RCW capacities available on the market, and the significant changes over time in estimated annual RCW cycles, DOE may consider whether any changes are warranted for the annual energy and annual water calculations to ensure that the results continue to reflect representative average use for all clothes washer sizes, to harmonize with any changes to other metrics within the DOE test procedures, and to continue to provide useful comparative information to consumers. For example:

- Revising the annual energy and annual water calculation methodology from being based on a fixed number of annual cycles to a fixed number of annual pounds of clothing.
- Varying the annual number of wash cycles based on clothes washer capacity, rather than a fixed number of annual cycles for all clothes washers.

*Issue II.C.3.* DOE requests data and information regarding whether and how the annual number of wash cycles varies as a function of clothes washer capacity. DOE also requests feedback on whether DOE should consider any changes to the annual energy or annual water calculation methodology and the burden associated with these potential changes.

## III. Other Comments, Data, and Information

In addition to the issues identified earlier in this document, DOE welcomes comment on any other aspect of the existing test procedures for clothes washers not already addressed by the specific areas identified in this document.

For example, as a general matter, DOE test procedures are intended to be performed to completion while a unit is installed in the test fixture. If a unit were to be uninstalled or removed from the test fixture before completion of the full test procedure, DOE would consider it a best practice to redo the complete test once the unit is reinstalled in the test fixture. Appendix J2 does not currently specify that the entire test procedure should be conducted without interruption, but DOE could consider adding such specification if doing so would lead to more repeatable and reproducible test results, particularly for the active mode portion of the test. DOE recognizes that given the differences in test conditions between active mode and inactive/off mode testing,[29] that these two portions of the test could be performed in separate test fixtures.

DOE recently issued an RFI to seek more information on whether its test procedures are reasonably designed, as required by EPCA, to produce results that measure the energy use or efficiency of a product during a representative average use cycle or period of use. 84 FR 9721 (Mar. 18, 2019). DOE seeks comment and information on this issue as it pertains to the test procedure for clothes washers along with comments and information on the following:

*Issue III.1.* DOE particularly seeks information regarding whether amended test procedures would more accurately or fully comply with the requirement that they be reasonably designed to produce test results that measure energy efficiency and water use of clothes washers during a representative average use cycle or period of use.

*Issue III.2.* DOE requests information that would ensure that the test procedure is not unduly burdensome to conduct. Specifically, DOE requests comments on whether potential amendments based on the issues discussed would result in a test procedure that is unduly burdensome to conduct, particularly in light of any new products on the market since the last test procedure update.

*Issue III.3.* DOE requests feedback on any potential amendments to the existing test procedures that could be considered to address impacts on manufacturers, including small businesses.

*Issue III.4.* DOE requests comment on the benefits and burdens of adopting any industry/voluntary consensus-based or other appropriate test procedure, without modification.

*Issue III.5.* DOE seeks information on how the test procedures could be amended to reduce the cost of new or additional features and make it more

[26] Part (A) provides the calculation when electrically heated water is used. Part (B) provides the calculation when gas-heated or oil-heated water is used.

[27] These equations include the machine electrical energy consumption, hot water energy consumption, and combined low-power mode energy consumption; they exclude the energy consumption for removal of moisture from the test load (*i.e.,* the ''drying energy'').

[28] The maximum capacity in the original load size table in Appendix J1–1997 was 3.8 cu.ft.

[29] Specifically, section 3.9 of appendix J2 specifies for combined low-power mode testing (*i.e.,* inactive/off mode testing) to establish the testing conditions set forth in sections 2.1 (electrical energy supply), 2.4 (test room temperature), and 2.10 (clothes washer installation); but does not require establishing the other test conditions in section 2 of appendix J2 (*e.g.,* supply water and water pressure).

likely that such features are included on clothes washers.

## IV. Submission of Comments

DOE invites all interested parties to submit in writing by the date specified in the **DATES** section, comments and information on matters addressed in this document and on other matters relevant to DOE's consideration of test procedures for clothes washers. These comments and information will aid in the development of a test procedure NOPR for RCWs and CCWs if DOE determines that amended test procedures may be appropriate for these products.

Submitting comments via *http://www.regulations.gov.* The *http://www.regulations.gov* web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to *http://www.regulations.gov* information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (''CBI'')). Comments submitted through *http://www.regulations.gov* cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through *http://www.regulations.gov* before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that *http://www.regulations.gov* provides after you have successfully uploaded your comment.

*Submitting comments via email, hand delivery, or mail.* Comments and documents submitted via email, hand delivery, or mail also will be posted to *http://www.regulations.gov.* If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

*Campaign form letters.* Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

*Confidential Business Information.* According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: One copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked ''non-confidential'' with the information believed to be confidential deleted. Submit these documents via email to *ResClothesWasher2016TP0011@ee.doe.gov* or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of the process for developing test procedures and energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the process.

Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process should contact Appliance and Equipment Standards Program staff at (202) 287–1445 or via e-*mail at ApplianceStandardsQuestions@ee.doe.gov.*

## Signing Authority

This document of the Department of Energy was signed on February 25, 2020, by Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE.

For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE **Federal Register** Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the **Federal Register**.

Signed in Washington, DC, on May 6, 2020.

**Treena V. Garrett,**

*Federal Register Liaison Officer, U.S. Department of Energy.*

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