



# ENERGY STAR® Program Requirements Product Specification for Clothes Washers

## Eligibility Criteria Draft 2, Version 8.0

Following is the **Draft 2, Version 8.0** product specification for ENERGY STAR certified clothes washers. A product shall meet all of the identified required criteria if it is to earn the ENERGY STAR.

**Note:** EPA welcomes feedback on this Draft 2 proposal; please send comments via email to [appliances@energystar.gov](mailto:appliances@energystar.gov) no later than November 21, 2016.

- 1) **Definitions:** Below are the definitions of the relevant terms in this document. Where noted below, definitions are identical to the definitions in the U.S. Department of Energy (DOE) test procedure at Title 10 Code of Federal Regulations (CFR) 430, Subpart B, Appendix J2, or in 10 CFR 430.2 and 10 CFR 431.152. When in conflict, the definitions in the CFR take precedence.
- A. Residential Clothes Washer<sup>1</sup>: 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.
    - 1. Residential Clothes Washer with Heated Drying Functionality: A Residential Clothes Washer that cleans and dries clothes in a single tumble-type drum; a drying cycle cannot be performed without first performing a wash cycle. Drying is accomplished in the wash drum through use of a heat source and forced air circulation.
  - B. Commercial Clothes Washer<sup>2</sup>: A soft-mounted front-loading or soft-mounted top-loading clothes washer that is designed for use in 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.
  - C. Combination All-in-One Washer-Dryer: A consumer product that meets the definition of a Residential Clothes Washer and Electric Clothes Dryer or Gas Clothes Dryer, which cleans and dries clothes in a single tumble-type drum; a drying cycle can be performed independently without first performing a wash cycle.
  - D. Laundry Center: A consumer product that meets the definition of a Residential Clothes Washer and Electric Clothes Dryer or Gas Clothes Dryer, which cleans and dries clothes in separate, stacked drums.
  - E. Modified Energy Factor (MEF J2)<sup>3</sup>: The quotient of the cubic foot (or liter) capacity of the clothes container divided by the total clothes washer energy consumption per cycle, with such energy consumption expressed as the sum of the machine electrical energy consumption, the hot water energy consumption, and the energy required for removal of the remaining moisture in the wash load.
  - F. Integrated Modified Energy Factor (IMEF)<sup>4</sup>: The quotient of the cubic foot (or liter) capacity of the clothes container divided by the total clothes washer energy consumption per cycle, with such energy consumption expressed as the sum of the machine electrical energy consumption, the hot water energy consumption, the energy required for removal of the remaining moisture in the wash load, and the combined low-power mode energy consumption.

<sup>1</sup>10 CFR 430 Subpart A, Section 430.2

<sup>2</sup> The ENERGY STAR definition of a commercial clothes washer differs from the DOE commercial clothes washer definition by: 1) not specifying a maximum capacity; and 2) not covering "other commercial applications."

<sup>3</sup> 10 CFR 430, Subpart B, Appendix J2

<sup>4</sup> 10 CFR 430, Subpart B, Appendix J2

- 51  
52 G. Integrated Water Factor (IWF)<sup>4</sup>: The quotient of the total weighted per-cycle water consumption for all  
53 wash cycles in gallons divided by the cubic foot (or liter) capacity of the clothes washer.  
54  
55 H. Basic Model<sup>5</sup>: All units of a given type of covered product (or class thereof) manufactured by one  
56 manufacturer, having the same primary energy source, and which have essentially identical electrical,  
57 physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency,  
58 water consumption, or water efficiency.  
59

60 **Note:** EPA did not receive comments on the proposed updates for combination all-in-one washer-dryers and  
61 residential clothes washers with heated drying functionality and, therefore, has maintained these definitions.  
62

63 EPA did receive comments requesting edits to the laundry center definition. After considering the comment, EPA  
64 has proposed to remove “and is powered by a single electric power source” from the laundry center definition.  
65

66 2) **Scope:**  
67

- 68 A. Included Products: Products that meet the definition of a Residential Clothes Washer or Commercial  
69 Clothes Washer as specified herein are eligible for ENERGY STAR certification, with the exception of  
70 products listed in Section 2B.  
71  
72 B. Excluded Products: The following products are not eligible for ENERGY STAR certification:  
73 i) products with a clothes washer drum volume of less than 1.6 cubic feet,  
74 ii) products configured in any way other than a front- or top-loading design,  
75 iii) Combination All-in-One Washer-Dryers,  
76 iv) Residential Clothes Washers with Heated Drying Functionality, and  
77 v) Commercial Clothes Washers with a clothes container volume larger than 8.0 cubic feet.  
78

79 **Note:** EPA thanks partners for providing additional data on the water usage of the dryer. In reviewing data from  
80 multiple manufacturers, EPA found that at least 20% of the total water consumption of the product, i.e. the water  
81 consumption from the clothes washer and clothes dryer, was from the dryer. This percentage is significant  
82 enough that the water consumption of the product should be tested and reported in order for combination all-in-  
83 one washer-dryers to be included in the ENERGY STAR program. In consultation with the Department of Energy,  
84 EPA believes there are pathways forward to test this water consumption. However, as there is a test method  
85 element to consider, EPA will, if there is interest from multiple partners, convene a working group to discuss  
86 pathways forward. Stakeholders interested in participating in this working group are encouraged to contact  
87 [appliances@energystar.gov](mailto:appliances@energystar.gov). The goal of this working group, should it be formed, will be to identify a pathway  
88 forward for testing the water consumption of the dryer element of combination all-in-one washer-dryers and  
89 ensuring the efficiency of these products. The goal of this effort would be to clarify the status and requirements of  
90 these products as a part of a 8.1 revision.  
91

92 EPA also received comments regarding the commercial clothes washer capacity scope limitation of 6.0 cu-ft. A  
93 stakeholder noted that DOE has issued a waiver to one manufacturer that would allow three specific clothes  
94 washer models with clothes container volumes up to 8.0 cu-ft. to be tested under the Appendix J2 test method.  
95 After consideration of this request, EPA has amended the commercial clothes washer scope to allow those  
96 products up to 8.0 cu-ft. to be eligible for ENERGY STAR certification. EPA notes that the definition of  
97 Commercial Clothes Washer maintains the exclusion of products designed for use in “other commercial  
98 applications;” i.e. applications other than those in which the occupants of more than one household will be using  
99 the clothes washer, such as multi-family housing common areas and coin laundries. EPA further notes that  
100 models wishing to qualify under this new extension would need a valid test procedure waiver from DOE in order to  
101 be eligible.  
102

103 3) **Qualification Criteria:**  
104

- 105 A. Modified Energy Factor (MEF J2) or Integrated Modified Energy Factor (IMEF):  
106 MEF J2 shall be greater than or equal to the Minimum MEF J2 (MEF J2<sub>MIN</sub>), as calculated per Equation 1.

<sup>5</sup> 10 CFR 430, Subpart A, Section 430.2

Alternatively, IMEF shall be greater than or equal to the Minimum IMEF ( $IMEF_{MIN}$ ), as calculated per equation 2.

#### Equation 1. Calculation of Minimum MEF J2

$$MEF J2_{MIN} = MEF J2_{BASE}$$

where,

$MEF J2_{BASE}$  is the base MEF J2, per Table 1

#### Equation 2. Calculation of Minimum IMEF

$$IMEF_{MIN} = IMEF_{BASE} - IMEF_{Adder\_Connected}$$

where,

$IMEF_{BASE}$  is the base IMEF, per Table 1

$IMEF_{Adder\_Connected}$  is the IMEF connected allowance, per Table 2

**Table 1: Base IMEF/MEF J2**

Product Type	IMEF <sub>BASE</sub>	MEF J2 <sub>BASE</sub>
Residential Clothes Washers, Front-loading (> 2.5 cu-ft) <sup>1</sup>	2.76	NA
Residential Clothes Washers, Top-loading (> 2.5 cu-ft) <sup>1</sup>	2.06	NA
Residential Clothes Washers (≤ 2.5 cu-ft)	2.07	NA
Commercial Clothes Washers	NA	2.20

<sup>1</sup> Those products meeting the definition of a laundry center must meet the appropriate IMEF and IWF, as outlined in Table 1 and Table 3, as well as the current ENERGY STAR criteria for clothes dryers.

**Table 2: Connected Allowance**

Description	Product Type	IMEF <sub>Adder\_Connected</sub> <sup>2</sup>
Connected	Residential Clothes Washers <sup>1</sup>	0.05 x IMEF <sub>BASE</sub>

<sup>1</sup> Product must be certified using the final and validated ENERGY STAR Clothes Washer Test Method to Validate Demand Response (TBD) to use the allowance.

<sup>2</sup> Calculated allowance shall be rounded down to the nearest hundredth before being applied in Equation 1.

#### B. Integrated Water Factor (IWF):

**Table 3: IWF**

Product Type	Maximum IWF
Residential Clothes Washers, Front-loading (> 2.5 cu-ft)	3.2
Residential Clothes Washers, Top-loading (> 2.5 cu-ft)	4.3
Residential Clothes Washers (≤ 2.5 cu-ft)	4.2
Commercial Clothes Washers	4.0

**Note:** EPA received multiple comments regarding the top-load residential clothes washer criteria. Stakeholders also shared market data that broke out top-load and front-load shipments that EPA did not have previously. Analysis of this data indicates that ENERGY STAR market share for top-load washers is lagging significantly behind that for front load washers. Based on an estimated ENERGY STAR market share of approximately 30%, EPA has concluded that a revision to the top-load residential clothes washer criteria is not warranted at this time. EPA anticipates that market conditions will have changed in time for the V9.0 revision process such that top-load criteria can be strengthened in a more meaningful way.

EPA also considered the comments made on laundry centers and has maintained the Draft 1 proposal levels for these products. EPA believes that it is possible for these products to meet the ENERGY STAR criteria for both clothes washers and clothes dryers.

One commercial clothes washer comment was received requesting that EPA sunset the top-load product category due to performance concerns. As part of its Draft 1 analysis, EPA reviewed the cleaning, rinse, and sand removal performance data in the Department of Energy Technical Support Document and concluded that performance would not be impacted by the proposed criteria. However, EPA notes that if stakeholders have concerns regarding the performance of commercial washers, then the scope of the Optional Reporting for Cleaning Performance may be extended to include commercial washers. This would allow the Agency to ensure that products that earn the ENERGY STAR do not trade off performance. .

C. Optional Reporting for Residential Clothes Washer Cleaning Performance:

TBD until the ENERGY STAR Test Method for Determining Residential Clothes Washer Cleaning Performance is available. Once completed, optional cleaning performance reporting is applicable to residential products included under Section 2A.

**Note:**

As noted in Draft 1, EPA is aware that as we recognize greater and greater levels of leadership in energy and water efficiency, efforts need to be taken in order to ensure that performance is not traded off for efficiency. EPA's interest is to advance a mechanism by which cleaning performance can be demonstrated in a repeatable and reproducible manner. EPA and DOE are releasing, alongside this Draft 2 specification, a draft test method. With an established test procedure, manufacturers will be able to submit test data at the time of certification. Upon finalization of the test method, this practice will be optional but encouraged for Version 8.0.

In addition to providing manufactures a consistent mechanism by which to ensure their high efficiency products continue to meet consumer expectations, establishing this kind of test procedure and generating data offers the following additional benefits:

\*Ongoing insight on cleaning performance as it relates to energy and water use would allow the ENERGY STAR program to better understand the current market and effectively plan for future specification development efforts.

\*Data at an individual model rather than an aggregate level is critical to effectively assessing the relationship between performance and energy and water use.

\*Access to comparable data across brands and models provides the most equitable and comprehensive picture of how ENERGY STAR products are performing

EPA and DOE welcome partner and stakeholder participation in the development process.

D. Significant Digits and Rounding: All calculations shall be carried out as specified in 10 CFR 430, Subpart B, Appendix J2, 10 CFR Part 430.23(j), and 10 CFR Part 429.20.

E. Model Numbers: Model numbers used for ENERGY STAR certified product submissions shall be consistent with Federal Trade Commission (FTC) and DOE submissions.

4) **Connected Criteria:**

The following optional connected criteria are applicable to Included Products, Section 2A, that meet the definition of a Residential Clothes Washer.

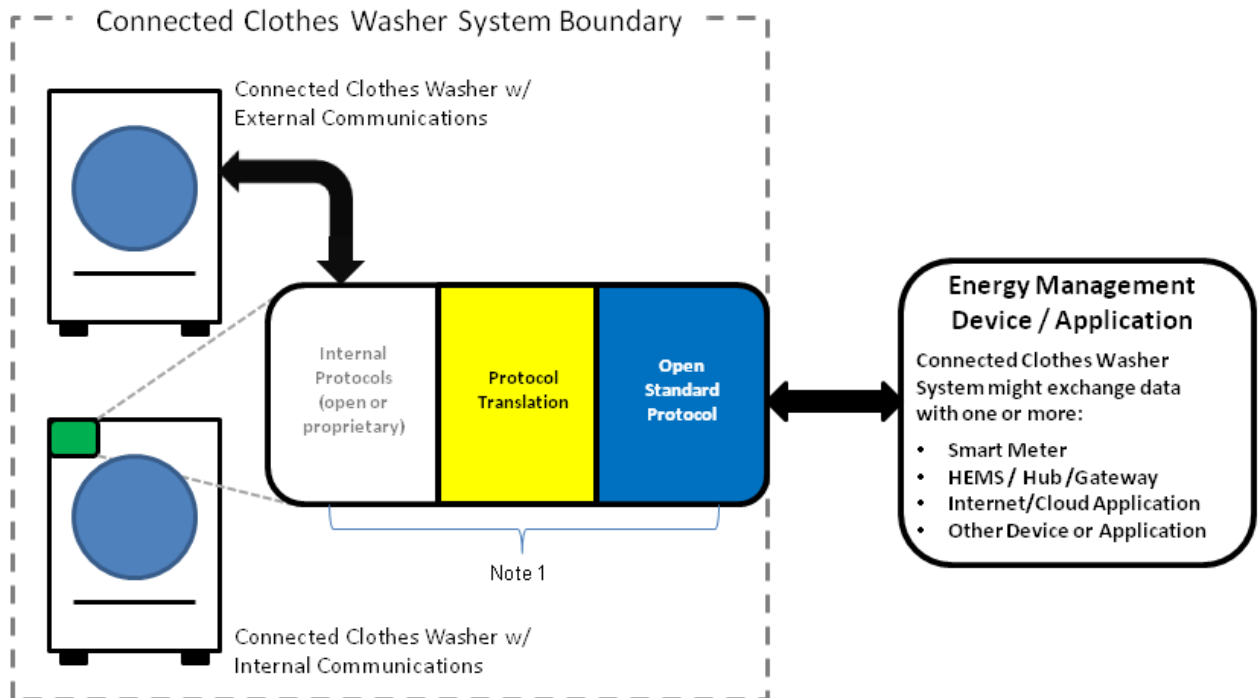
190 A. Connected Clothes Washer System

191 To be recognized as connected and to be eligible for the connected allowance, a “connected clothes  
192 washer system” (Connected Clothes Washer System, as shown in Figure 1) shall include the base  
193 appliance plus all elements (hardware, software) required to enable communication in response to  
194 consumer-authorized energy related commands (*not including third-party remote management which may  
195 be made available solely at the discretion of the manufacturer*). These elements may be resident inside  
196 or outside of the base appliance. This capability shall be supported through one or more means, as  
197 identified in section 4B2.

198 The specific design and implementation of the Connected Clothes Washer System is at the  
199 manufacturer's discretion provided it is interoperable with other devices via open communications  
200 protocol and enables economical consumer-authorized third party access to the functionalities provided  
201 for in sections 4D, 4F, and 4G. The capabilities shall be supported through one or more means, as  
202 identified in section 4B2. A product that enables economical and direct, on-premises, open-standards  
203 based interconnection is the preferred option for meeting this requirement, but alternative approaches are  
204 also acceptable.

205  
206 The product must continue to comply with the applicable product safety standards – the addition of the  
207 functionality described below shall not override existing safety protections and functions. The appliance  
208 must meet manufacturer's internal minimum performance guidelines, e.g., cleaning performance.  
209

210 **Figure 1.** Connected Clothes Washer System Boundary – Illustrative Example  
211



212  
213 Note 1: Communication device(s), link(s) and/or processing that enables open standards-based communication between the  
214 Connected Clothes Washer System and Energy Management Device/Application(s). These elements could be within the base  
215 appliance, and/or an external communication module, a hub/gateway, or in the Internet/cloud.

216 B. Communications

- 217  
218 1. Open Standards – Communication with entities outside the Connected Clothes Washer System that  
219 enables connected functionality (sections 4D, 4F, 4G) must use, for all communication layers,  
220 standards:

- 221  
222 a. Included in the Smart Grid Interoperability Panel (SGIP) Catalog of Standards,<sup>6</sup> and/or

<sup>6</sup> [http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/PMO#Catalog\\_of\\_Standards\\_Processes](http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/PMO#Catalog_of_Standards_Processes)

- b. Included in the NIST Smart Grid framework<sup>7</sup> Tables 4.1 and 4.2, and/or
- c. Adopted by the American National Standards Institute (ANSI) or another well-established international standards organization such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), International Telecommunication Union (ITU), Institute of Electrical and Electronics Engineers (IEEE), or Internet Engineering Task Force (IETF).

Notes:

1. The Association of Home Appliance Manufacturers (AHAM) published a study in September 2010, AHAM Assessment of Communication Standards for Smart Appliances<sup>8</sup>, which evaluates existing communication protocols designed for the smart grid. All standards listed in this document would be considered open standards.
2. EPA recognizes that standardized messages to enable requisite connected functionality may not be available. In such cases, manufacturer-specific messaging is unavoidable, and is permitted by certain open standards. In cases where proprietary messaging is necessary, the API or similar documents must ensure open access to the connected functionalities outlined in Section 4C.
2. Communications Hardware Architecture – Communication with entities outside the Connected Clothes Washer System that enables connected functionality shall be enabled by any of the following means, according to the manufacturer's preference:
  - a. Built-in communication technology
  - b. Manufacturer-specific external communication module(s) and/or device(s)
  - c. Open standards-based communication port on the appliance combined with open standards-based communications module
  - d. Open standards-based communication port(s) on the appliance in addition to a, b or c, aboveIf option b or c is used, the communication module/device(s) must be easy for a consumer to install and shipped with the appliance, provided to the consumer at the time of sale, or provided to the consumer in a reasonable amount of time after the sale.

C. Open Access

To enable interconnection with the product, in addition to section 4B1 that requires open-standards, an interface specification, Application Programming Interface (API) or similar documentation shall be made available to interested parties that at a minimum, allows transmission, reception and interpretation of the following information:

1. Energy Consumption Reporting specified in section 4D (must include accuracy, units and measurement interval);
2. Operational Status, User Settings & Messages specified in section 4F (if transmitted via a communication link);
3. Demand Response specified in section 4G.

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<sup>7</sup> <http://www.nist.gov/smartgrid/upload/NIST-SP-1108r3.pdf>

<sup>8</sup> [https://www.smartgrid.gov/document/assessment\\_communication\\_standards\\_smart\\_appliances\\_home\\_appliance\\_industrys\\_technical\\_eval](https://www.smartgrid.gov/document/assessment_communication_standards_smart_appliances_home_appliance_industrys_technical_eval)

262 D. Energy Consumption Reporting

263 In order to enable simple, actionable energy use feedback to consumers and consumer authorized  
264 energy use reporting to 3rd parties, the product shall be capable of transmitting energy consumption data  
265 via a communication link to energy management systems and other consumer authorized devices,  
266 services, or applications. This data shall be representative of the product's interval energy consumption. It  
267 is recommended that data be reported in watt-hours for intervals of 15 minutes or less, however,  
268 representative data may also be reported in alternate units and intervals as specified in the product  
269 manufacturer's interface specification or API detailed in section 4C.

270 The product may provide additional types of energy use feedback, such as:

- 271 • energy use feedback on the product itself, or
- 272 • energy use associated with the previous cycle

273 This additional reporting, if provided, may be in units and format chosen by the manufacturer (e.g.,  
274 \$/month or KWh/cycle).

275 E. Remote Management

276 The product shall be capable of receiving and responding to consumer authorized remote requests (*not*  
277 *including third-party remote management which may be made available solely at the discretion of the*  
278 *manufacturer*), via a communication link, similar to consumer controllable functions on the product. The  
279 product is not required to respond to remote requests that would compromise performance and/or product  
280 safety as determined by the product manufacturer.

281 F. Operational Status, User Settings & Messages

- 282 1. The product shall be capable of providing the following information to energy management systems  
283 and other consumer authorized devices, services or applications via a communication link:
  - 284 • Operational / Demand Response (DR) status (e.g., off/standby, cycle in process, delay appliance  
285 load, temporary appliance load reduction).
- 286 2. The product shall be capable of providing the following information on the product and/or to energy  
287 management systems and other consumer authorized devices, services or applications via  
288 communication link:
  - 289 • At least two types of messages relevant to the energy consumption of the product. For example,  
290 messages for clothes washers might address performance issues or report of energy  
291 consumption that is outside the product's normal range.

292 G. Demand Response

293 A connected clothes washer shall have the capability to receive, interpret and act upon consumer-  
294 authorized signals by automatically adjusting its operation depending on both the signal's contents and  
295 settings from consumers. At a minimum, the product shall be capable of providing the following  
296 capabilities for all cycle and setting combinations, except where otherwise noted (see Section 4.G.2):

- 297 1. *Delay Appliance Load (DAL) Capability*: The capability of the product to respond to a signal in  
298 accordance with consumer settings, except as permitted below, by delaying the start of an operating  
299 cycle beyond the delay period.
  - 300 a. Default settings –The product shall ship with default settings that enable a response for at least 4  
301 hours.
  - 302 b. Consumer override – The consumer shall be able to override the product's Delay Appliance Load  
303 response at any time after the requesting signal has been received. If the consumer elects to  
304 override, the product is not required to respond to subsequent DR signals requesting a response  
305 in the current operational cycle. However, responses in subsequent operational cycles shall not  
306 be automatically overridden.



c. The product shall be able to provide at least one Delay Appliance Load response per consumer initiated operating cycle.

2. *Temporary Appliance Load Reduction (TALR) Capability:* The capability of the product to respond to a signal by providing load reduction for a short time period, typically 10 minutes. Upon receipt of signal and in accordance with consumer settings, except as permitted below, the product shall restrict its average power draw during the load reduction period to no more than 50 watts.

a. Default settings – The product shall ship with default settings that enable a response period of at least 10 minutes.

b. The product is not required to provide a response if the consumer selected wash cycle, as indicated in the product user documentation and/or on the product itself, is explicitly designed or primarily intended for:

- sanitization, such as those in cycles compliance with NSF Protocol P172 “Sanitization Performance of Residential and Commercial, Family-Sized Clothes Washers,” or
- allergen reduction, such as those cycles in compliance with NSF Protocol P351 “Allergen Reduction Performance of Residential and Commercial, Family-Sized Clothes Washers,” or
- laundering of hand-wash wool articles, such as those cycles in compliance with Woolmark Blue (formerly Gold) or Woolmark Green (formerly Platinum)

Note: EPA encourages products to provide Temporary Appliance Load Reduction responses in these cycles whenever consumer expectations would not be impacted.

c. Consumer override – The consumer shall be able to override the product’s Temporary Appliance Load Reduction response at any time after the requesting signal has been received. If the consumer elects to override, the product is not required to respond to subsequent DR signals requesting a response in the current operational cycle.

d. The product shall be able to provide at least one Temporary Appliance Load Reduction response per consumer initiated operating cycle.

#### Illustrative DR Examples:

1. The product receives a DAL signal with a 10-hour delay period. The consumer overrides and starts a load. The product need not respond to subsequent DAL or TALR signals during that cycle. However, after this cycle completes, the consumer must initiate a 2<sup>nd</sup> override in order to start a second cycle without delay.
2. While running a cycle, the product receives and responds to a TALR signal. During its response, the product receives a DAL signal with a 4-hour delay period. Since the consumer has elected to override, the product does not need to respond to the DAL signal in the current cycle. However, after this cycle completes, if within the DAL delay period; the consumer must initiate an override in order to start a subsequent cycle without delay.
3. While running a cycle, the product receives and responds to a TALR signal. After its response and within the same operational cycle, the product receives a second TALR signal. Since the product is required to provide one TALR response per operating cycle, it does not need to respond to the second signal.

#### H. Information to Consumers

If additional modules, devices, services and/or infrastructure are part of the configuration required to activate the product’s communications capabilities, prominent labels or other forms of consumer notifications with instructions shall be displayed at the point of purchase and in the product literature. These shall provide specific information on what consumers must do to activate these capabilities (e.g. “*This product has Wi-Fi capability and requires Internet connectivity and a wireless router to enable interconnection with an Energy Management System, and/or with other external devices, systems or applications.*”).



**Note:** EPA received multiple comments related to the connected updates presented in Draft 1. In response, EPA has revised the note in Section 4B (Note 2) to provide better clarity, indicating that the Open Access to connected functions should reflect those outlined in Section 4C. In addition, EPA removed the added language in Section 4B2 regarding separate modules. However, this language will be maintained in the [ENERGY STAR Connected Criteria Q&A](#) as EPA believes this language does help clarify intent. Stakeholders also commented on the energy consumption reporting (Section 4D). The additional language added in Draft 1 is consistent with EPA's approach to connected functionality across ENERGY STAR products, and serves to provide tangible examples to manufacturers of additional types of energy use reporting and formats they might consider using. This language has therefore been retained in Draft 2.

A stakeholder also requested clarification regarding Section 4E. In response, EPA has reverted back to the original language that was included in the V7.1 specification. Finally, EPA is retaining the Demand Response criteria from Draft 1 (Section 4G1b). This language reflects EPA's original intent with respect to the demand response criteria in the final V7.1 specification, which was clarified in the ENERGY STAR Connected Criteria Q&A. The criteria continues to keep consumers in control of their appliances at all times while optimizing potential grid benefits. In the example where multiple wash loads take place in a single, long-duration DAL period, the consumer will simply need to override at the start of each wash load.

## 5) Test Requirements:

- A. One of the following sampling plans shall be used to test for certification to ENERGY STAR:
  1. A representative unit shall be selected for testing based on the definition for Basic Model provided in Section 1 above; or
  2. Units shall be selected for testing per the sampling requirements as defined in Table 4:

**Table 4: ENERGY STAR  
Sampling Requirements for Clothes Washers**

Residential Clothes Washers	10 CFR § 429.20, which references 10 CFR § 429.11
Commercial Clothes Washers	10 CFR § 429.46, which references 10 CFR § 429.11

- B. When testing the energy and water efficiency of clothes washers, the following test method shall be used to determine ENERGY STAR certification:

**Table 5: Test Methods for ENERGY STAR Certification**

Efficiency Requirement	Test Method Reference
Residential Clothes Washers: IMEF and IWF	10 CFR 430, Subpart B, Appendix J2 <sup>1</sup>
Commercial Clothes Washers: MEF J2 and IWF	

<sup>1</sup> And in accordance with any applicable DOE issued test procedure guidance, listed here: <http://www1.eere.energy.gov/guidance/default.aspx?pid=2&spid=1>

- C. Compliance with Connected functionality, as specified in Section 4, shall be through examination of product and/or product documentation. In addition, upon publication of a final test method, demand response functionality shall be tested using the ENERGY STAR Test Method for Clothes Washers to Validate Demand Response. Once the final Test Method is published, it must be used to certify demand response functionality in order for a product to remain listed as having connected functionality on the Certified Product List, and to be eligible for any connected allowance.
- D. Compliance with Cleaning Performance reporting requirements, as specified in Section 3C, shall be tested using the ENERGY STAR Test Method for Residential Clothes Washers Cleaning Performance. Once the final Test Method is published, EPA recommends that it be used to report cleaning performance.

405 6) **Effective Date:**

406  
407 The ENERGY STAR Clothes Washer specification shall take effect on **January 1, 2018**. To qualify for  
408 ENERGY STAR, a product model shall meet the ENERGY STAR specification in effect on the model's date of  
409 manufacture. The date of manufacture is specific to each unit and is the date on which a unit is considered to  
410 be completely assembled.  
411

412 **Note:** EPA received a few comments regarding the effective date. Some suggested a delay until market issues  
413 are resolved or until the cleaning test method is completed. However, most supported aligning with the new  
414 federal standards. The January 1, 2018 effective date will be maintained, in alignment with the next change in  
415 federal standards.

416  
417 7) **Future Criteria Revisions:**

- 418  
419 A. ENERGY STAR reserves the right to change the specification should technological and/or market  
420 changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy,  
421 revisions to the specification are arrived at through industry discussions. In the event of a specification  
422 revision, please note that the ENERGY STAR certification is not automatically granted for the life of a  
423 product model.  
424  
425