

Summary and Response to Stakeholder Comments Received on the
ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

REF NO.	Topic	Comment Summary	ENERGY STAR Response
1	Qualification Criteria	Stakeholder contends that consumers choose automatic termination mode about 70% of the time, and ENERGY STAR should encourage technologies that reduce energy in all settings that include automatic termination, not solely the manufacturer-labeled default setting.	As discussed in the Supplemental Proposal, EPA agrees that using Appendix D2 will recognize products with more effective automatic termination controls, providing an incentive for manufacturers to design sensor/controls that reduce waste energy at the end of the cycle that over dries clothes. Due to the updated test procedure reference to Appendix D2, EPA agrees the automatic termination criteria previously proposed are no longer necessary and has removed them.
2	Qualification Criteria	Stakeholder believes automatic termination criteria is no longer necessary due to EPA's proposed use of DOE's new test procedure.	
3	Qualification Criteria	Stakeholder opposes EPA's proposal of a maximum cycle time and notes that EPA lacks sufficient data to support its proposed maximum drying time of 80 minutes. Expresses concern that the change in the proposal from 50 minutes (Draft 1) to 80 minutes was not justified, and that EPA hasn't determined the difference in dry time of a test load and a typical consumer load, and whether the 80 minute (or 50 minute) maximum drying time requirement would correlate to a similar dry time in a consumers home.	EPA has retained the 80 minute maximum drying time requirement in the Final Draft Version 1.0 and believes that including a drying time requirement is important at this stage in order to help ensure that efficiency gains are not made entirely at the expense of much longer drying cycles that consumers may find unacceptable. EPA has also added language to Section 3 B
4	Qualification Criteria	As manufacturers have previously indicated, consumers want their wash and dry times to match. EPA's proposal of an 80 minute drying time does not take that information into account, despite the fact that EPA acknowledged it in the Draft 1 proposal.	
5	Qualification Criteria	Stakeholder supports establishing a maximum dry time requirement for clothes dryers as this is a legacy amenity, however stakeholder expresses concern that EPA's analysis of the operating cycles of clothes dryers and clothes washers currently on the market does not provide sufficient insight into consumer preferences or levels of satisfaction. Stakeholder recommends that ENERGY STAR collect data in the US and Canada regarding consumer tolerances for acceptable drying times. This research will allow EPA to justify the proposed maximum drying time.	

Summary and Response to Stakeholder Comments Received on the ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

6	Qualification Criteria	While there is a need within the efficient dryer community for a deeper understanding of consumer preference to determine appropriate dry-time limits, that analysis is not yet available; therefore the proposed (80 min) cycle limit seems a reasonable level for now but encourages EPA to revisit the levels with future iterations of the specification	and unacceptable. EPA has also added language to Section 3.2 of the Final Draft to make clear the Agency's intent that products provide consumers with a satisfactory experience in the tested mode so as to encourage continued use and consistently yield both savings and environmental benefit.
7	Qualification Criteria	Including a drying time limit is important for two main reasons: first, some heat pump dryers can take on the order of two hours to dry clothes, which may not be acceptable to consumers and risks damaging the ENERGY STAR brand; second, testing has shown that efficiency and drying time are correlated and so some manufacturers may simply increase drying time of an existing model to meet the ENERGY STAR specification	Based on the test cycle times of products included in the ENERGY STAR Draft 2 data set and the subsequent manufacturer conversations regarding acceptable cycle lengths, EPA believes that the 80 minute time limitation will help to guard against excessive cycle lengths but while not being so overly restrictive as to preclude products with new energy savings technologies (e.g., heat pumps or hybrid heat pumps) from being eligible to earn the ENERGY STAR mark. As discussed previously, EPA believes it is important to balance these considerations and will continue to monitor the market and review new data as it becomes available, to further evaluate drying time, efficiency and consumer expectations. The additional test data provided by several stakeholders indicates that dryer's tested cycle time under Appendix D2 but with an AHAM test load (to approximate a 'real world' load), was on average 8% longer than the cycle time with the DOE test clothes. Considering the stage of the specification development process, stakeholders' interest in seeing having a final specification available, and the uncertainty as to the additional value from shortening the requirement by just 6 minutes, EPA has maintained the drying time requirement at 80 minutes in the Final Draft.
8	Qualification Criteria	The available data supports that EPA's choice of an 80 minute limit for drying time is reasonable. This limit would allow for some heat pump models to qualify, but still be within the range of drying times for non-heat pump models.	
9	Qualification Criteria	Stakeholder does not oppose EPA's decision to reintroduce the maximum dryer time requirement to address concerns around consumer acceptance of excessively long dry times and likely shift toward the usage of faster, less efficient dryer settings. However, stakeholder encourages EPA to review this maximum time requirement once additional efficiency, dry time and consumer preference data is received from qualifying products in 2015.	
10	Qualification Criteria	Stakeholder opposes EPA's proposal of a maximum cycle time noting that EPA lacks sufficient data to support the proposed maximum drying time in the supplemental proposal	
11	Qualification Criteria	In setting a maximum drying time, stakeholder recommends that EPA consider real-world dry times based on input from manufacturers and results from field test, as opposed to relying on values derived from current test methods.	

Summary and Response to Stakeholder Comments Received on the
ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

12	Qualification Criteria	Stakeholder recommends reducing the maximum drying time limit noting, while 80 minutes is an acceptable time constraint for drying a comparably sized load of real clothes, a dryer that takes 80 minutes to dry a standard load of DOE test cloths would need 86 minutes to dry a more realistic load of similar size. Stakeholder testing has found that test runs performed with an AHAM load take 7% longer than with DOE test load, as a result recommends that EPA consider a 74 minute cycle maximum cycle length.	
13	Qualification Criteria	Stakeholder is concerned that the efficiency data currently available may present some challenges when justifying program savings to regulators, particularly for product categories with less supporting data available (e.g. gas and compact clothes dryers). As such, stakeholder encourages EPA to consider approaches for obtaining additional performance data based on the new DOE test procedure, with the goal of establishing a more robust baseline, provided that generating this data does not unreasonably burden the program's partners.	In Version 1.0 specification EPA multiplied the 2015 Federal standards (expressed in CEF) by the average change in dryers' assessed CEF between Appendix D1 and Appendix D2, seen in DOE testing for the test procedure rulemaking. EPA used the resulting CEF values as estimates of the baseline energy efficiency of clothes dryer in 2015. EPA will look for opportunities to work with partners and other ENERGY STAR program stakeholders to collect additional Appendix D2 test data that could be used to further refine this baseline.
15	Qualification Criteria	Several stakeholders recommended EPA use a sloped specification line dependent on cycle time and certify at multiple drying speeds. If EPA is unwilling to use a sloped line, EPA should increase the stringency of the proposed specification to a CEF of 4.29 for full-sized electric dryers for two principle reasons. First, ENERGY STAR should encourage fundamental improvements in conventional dryer design beyond improved automatic termination. Second, the delay in implementation of the specification from the 2013 timeframe to January 2015 means that the baseline has improved.	EPA also received feedback from stakeholders that meeting the levels using the DOE test procedure located in Appendix D2 would be challenging. EPA has retained the levels in the Final Draft and believes these requirements continue to strike the right balance and will recognizing a selection of products that provide consumers with cost-effective energy savings.
16	Qualification Criteria	Stakeholder encourages EPA to require manufacturers to clearly and consistently label the energy savings modes on ENERGY STAR qualified models in order to help consumers realize the energy savings that the ENERGY STAR brand promises.	EPA agrees that it will be helpful for consumers to have information on the cycle setting(s) tested to comply with ENERGY STAR and related information as to the impacts of cycle setting selections on the energy use. In the Final Draft Version 1.0 specification, EPA has proposed that manufactures convey

Summary and Response to Stakeholder Comments Received on the
ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

17	Qualification Criteria	ENERGY STAR could further enhance user interface by requiring that manufacturers clearly identify the automatically terminated cycle option as the primary or preferred efficient option through labeling, placement on the control panel, and language in the product manual.	information to consumers (i.e., in a owner use/care manual) as to the cycle setting(s) tested to determine the energy efficiency rating, and guidance about cycle selection and energy use. EPA sees this as a step towards improving consumer understanding of the energy use and awareness of the implications that
18	Qualification Criteria	Manufacturers can only report energy information based on the DOE test procedure - EPA's proposal would require manufactures to make representations of clothes dryer energy use different than that made to DOE and to use a modified procedure (different cycle); As such, the stakeholder cannot support the proposal of requiring additional test data for the purposes of certification	
19	Qualification Criteria	Even absent a requirement to pass a specification in all modes, additional data about dryer performance can help improve the effectiveness of future versions of the dryer specification. As a result, stakeholder supports EPA's proposal to ask manufacturers to test and report the per-cycle energy consumption and duration of the manufacturer- defined fastest drying cycle.	
20	Qualification Criteria	The "test and report" requirement for manufacturers to report their dryer's cycle time and energy consumption of their fastest dryer setting is supported and information will provide helpful data to inform the next version of the ENERGY STAR specification without providing an undue burden on clothes dryer manufacturers.	
21	Qualification Criteria	Stakeholder supports EPA's decision to require manufacture to report the CEF and drying time for both the required settings based on Appendix D2 and the fastest drying cycle, if different from the normally tested mode. Stakeholder encourages that EPA also request reporting of CEF and drying time of the most efficient dryer setting.	Based on feedback to the Supplemental Proposal that requiring the 'fastest cycle' to be tested would substantially increase test burden for vented clothes dryers, EPA was concerned that the value from this proposed test/report requirement would not outweigh the added test burden. Accordingly, the reporting requirement was excluded from the Final Draft Version 1.0. Instead, EPA has added new language in Section 3.C to make clear the Agency's intent that products provide consumers with a satisfactory experience in the tested mode so as to encourage continued use and consistently yield both savings and environmental benefit. EPA is also aware that efficiency organizations are pursuing plans that would involve additional testing of some clothes dryers (i.e., additional modes/settings,
22	Qualification Criteria	Stakeholder recommends that EPA ensure that there is sufficient detail of the manufacturer defined fastest cycle contained in the ENERGY STAR database to ensure that data can be confirmed through the verification process.	
23	Qualification Criteria	EPA should clarify if the "fastest" cycle has to be an auto-termination cycle or if it could be a timed dry cycle.	

Summary and Response to Stakeholder Comments Received on the
ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

24	Qualification Criteria	By testing just one run of the auto-termination cycle it is possible to have very good efficiency and very poor efficiency from two consecutive runs, therefore stakeholder recommends that EPA consider averaging out a number of runs to minimize variation.	load types) in test labs and field settings. These efforts may yield new information on the need or benefit from testing additional dryer modes that could be considered by EPA, DOE and stakeholders during a future specification revision.
25	Qualification Criteria	The introduction of the manufacturer-defined fasted cycle testing and reporting requirement creates a costly manufacturer burden without the necessary data and analysis to justify inclusion in the specification.	
26	Qualification Criteria	Stakeholder agrees that a first step toward understanding the cycle options available to consumers while expanding the ENERGY STAR dataset can be achieved through EPA's proposal to require manufacture testing and reporting of the per-cycle energy consumption and duration of the manufacturer defined fastest cycle.	
27	Qualification Criteria	Stakeholder supports the test and list requirement for energy used during the quickest dry cycle, noting that efficiency is highly correlated to dry time and in order to meet an ENERGY STAR specification a manufacturer could simply slow down the dryer under the default mode and include a "quick dry mode" that provides that same energy and time performance of models currently on the market.	
28	Test Requirements	Stakeholder opposes referencing Appendix D2 as the test procedure for ENERGY STAR qualification in Version 1.0 of the clothes dryer specification and EPA should instead reference the Appendix D1, which is the test procedure that will be mandatory when Version 1.0 becomes effective.	
29	Test Requirements	For home appliances, ENERGY STAR levels are traditionally set as a percent better than the Federal energy efficiency standard. And that determination is made based on the same test procedure. Consumer expectation for ENERGY STAR labeled products is that the product is a better energy performer than a non-ENERGY STAR labeled product when measured under the same criteria.	

Summary and Response to Stakeholder Comments Received on the
ENERGY STAR Program Version 1.0 Clothes Dryer Supplemental Proposal

30	Test Requirements	Stakeholder requests that EPA consider advocating that the DOE include Appendix D2 test as a part of their verification/compliance testing once the new federal standards are in effect.	The Final Draft Version 1.0 specification continues to reference the DOE clothes dryer test procedure located in Appendix D2. This test procedure provides more accurate energy use and relative energy-efficiency comparisons and has been supported by a variety of stakeholders, including utilities, efficiency organizations and a manufacturer. The test procedure rewards manufacturers who use improved automatic termination control technology to reduce wasted energy at the end of the drying cycle, while also reducing wear and tear on clothing. Based on all the feedback received, EPA believes the benefits from measuring and rewarding products with more effective automatic termination controls are large while the potential for confusion resulting from the early use of Appendix D2 is small.
31	Test Requirements	Stakeholder does not disagree with EPA's assessment that Appendix D2 better reflects the energy consumption for the set of consumers that use automatic termination cycles. However, a test procedure with automatic termination may not represent the energy use for a large number of consumers who prefer timed dry, which may be better represented by Appendix D1, citing that one major manufacturer publically stated that 54% of consumer regularly use timed dry over automatic termination cycles.	
32	Test Requirements	Stakeholder appreciates that new test method captures full energy cycle use as it enables a level or product differentiation that is necessary and sufficient for program promotion	
33	Test Requirements	The use of the amended test method represents a significant improvement over the prior version, stakeholder raises certain concerns including the character of the test cloths being used and the assumptions about the total number of cycles per year. Field testing has indicated that load composition included clothes of various compositions and thicknesses resulting in longer drying times, in addition to the field test data showing that total number of cycles per year is likely closer to 337, versus DOE's assumption of 283.	
34	Effective Date	Stakeholder only supports an effective date of January 1, 2015 if the test procedure is also harmonized with the mandatory test procedure Appendix D1.	EPA has retained the January 1, 2015 effective date. Based on feedback provided, EPA anticipates that limited set of models will meet the requirements under this specification in advance of 2015; however, to the extent there are any, early qualification will be available any time after the specification is final.
35	Effective Date	Encourages EPA to consider an earlier effective date than January 1 2015. Stakeholder understanding is that multiple manufacturers will have ENERGY STAR eligible products available by the middle of this year (2014), delaying the specification could negatively impact these manufacturers who have invested in improving their product lines.	