

**Draft 2 Water Cooler Version 2.0 Specification  
Comment Response Document**

No.	Comment	Response
1	Changes to the kWh criteria should be adjusted incrementally, with a proposed initial change of 1.0 kWh/24hours. The market impact could then be studied for a period of time with the potential for further reductions at a later date (3-5 years).	Prior to launching the Version 2.0 development process, EPA evaluated the full potential of the water cooler specification. Based on continued support of the program by stakeholders and an initial energy savings analysis EPA decided to revise the specification. This analysis indicated that for the ENERGY STAR program to continue providing value with regards to energy savings both to the consumer and nationally, the new level proposed for this product category would need to be below 1.0 kWh/day. EPA has found the label to be most effective when selecting efficiency levels reflective of the top 25% of models available on the market. However, in response to continued stakeholder concern regarding the proposed Hot and Cold - Storage level, EPA conducted a more in-depth analysis of the data set and found that a significantly smaller population of brands and models typically leased comply with this limit, compared to brands sold at retail. A 0.87 kWh/day limit is now proposed in the Final Draft, which represents approximately 25% of EPA's dataset and provides consumers with greater choice in manufacturer and brand within this channel. The overall compliance rate is approximately 28%.
2	Lowering the standby energy use criteria to <0.81 kWh/day will likely be unaffordable and/or unachievable for many water cooler manufacturers. EPA should seriously consider the critical market-driven water cooler performance standards that HOD customers expect and run its own test method against IBWA standards to determine if the proposed standby energy use consumption level of < 0.81 kWh/day can in fact be achieved. EPA should also engage in direct conversations with water cooler manufacturers and distributors on what new standby energy use consumption levels might be reasonably achieved by industry over the next 3-5 years.	
3	The targeted top 25% of EPA's certified dataset is comprised primarily of water cooler models available at retail and EPA is therefore, essentially dismissing an extensive number of highly energy-efficient water cooler models available within the HOD segment of the bottled water industry. If the current proposed standby energy use qualification level is implemented, HOD commercial and residential customer expectations will not be met due to resultant negative water cooler performance issue.	
4	EPA should take into account proposed energy efficiency standards and the potential barriers to business those standards may create as they are related to current and future state and federal energy efficiency standards for appliances.	
5	EPA should take into account proposed energy efficiency standards as they relate to new and changing water cooler technologies and potential unintended consequences if those standards are potentially unrealistic, counterproductive, and might negatively impact consumers, industry and EPA's own energy efficiency goals.	

6	<p>EPA should consider either a separate category in the specification, or providing an allowance, for technologies that reduce energy consumption outside of the use phase (e.g., reduction in materials, greener components) compared to a standard compressor unit. There should be some green/energy recognition potential for products that are optimized to perform efficiently and use a lot less energy than the usual water cooler, even if they use a bit more energy in the use phase.</p>	<p>The goal of ENERGY STAR is to develop performance-based product specifications that identify the most energy-efficient products available in the marketplace taking into consideration how the product will be installed and operated. Consumers that choose ENERGY STAR qualified products expect a reduction in energy consumption and ultimately a lower utility bill. EPA supports and appreciates efforts by manufacturers to choose environmentally friendly components and technologies but views these benefits as above and beyond the operational energy savings that consumers have grown to expect in purchasing ENERGY STAR qualified products. While EPA cannot provide an allowance for these products, we are interested in identifying ways in which ENERGY STAR qualified products that do offer other environmental benefits can be highlighted or further promoted.</p>
7	<p>EPA should publicly release the specific water cooler data, and models on which it is basing the proposed qualification level, before finalizing and implementing any new criteria. Also, EPA should undertake a thorough review and publicly release related data on the potential impact of the proposed qualification level on overall sales volumes.</p>	<p>The levels proposed in Version 2.0 are based on an analysis of the current ENERGY STAR QPL, which is publically available and includes information on manufacturer, brand, and model. Market penetration of ENERGY STAR qualified water coolers was estimated to be 62% in 2011, indicating that ENERGY STAR is no longer providing differentiation in the marketplace. This was further supported by several stakeholder discussions that indicated that for some time, ENERGY STAR has not been a deciding factor in water cooler purchases. EPA does expect there to be an impact on ENERGY STAR sales volume once Version 2.0 takes effect. As the market responds to consumer demand for ENERGY STAR qualified models, EPA expects that sales of highly efficient products will once again increase, locking in more and more energy savings and environmental benefits over the life of those units.</p>
8	<p>We support EPA’s decision in the Draft 2 specification to add a “product family” definition in order to allow water cooler manufacturers to have any model within a product family tested and serve as the representative model for ENERGY STAR certification.</p>	<p>EPA appreciates the support for the proposed changes.</p>
9	<p>We support EPA’s decision in the Draft 2 specification to not support a stand-by energy consumption credit (allowance) without additional documented data from manufacturers on the energy savings associated with enabled shut down features and/or suggestions from those manufacturers on ways in which these savings might be assured post shipment.</p>	<p>EPA appreciates the support for the proposed changes.</p>
10	<p>We support EPA’s decision in the Draft 2 specification to remove the “water draw” test method from the certification protocol in order to allow stakeholders more time to review and apply it just within the context of the Final ENERGY STAR Water Cooler Test Method.</p>	<p>EPA appreciates the support for the proposed changes.</p>

11	<p>There is some concern with the effective date of the Final Version 2.0 specification in how it will affect “grandfathered” units manufactured under earlier specification versions. EPA should develop and implement a transparent system whereby customers may easily access prior ENERGY STAR compliance/certification list(s) in order to confirm whether or not their particular water cooler product model is in fact ENERGY STAR compliant.</p>	<p>EPA does not support grandfathering for ENERGY STAR products. Once the Version 2.0 specification takes effect, only those water cooler models that meet the new criteria and have been third party certified by an EPA recognized certification body will remain on the QPL. At that time, manufacturers and distributors may only promote and sell models as ENERGY STAR qualified if they meet the new Version 2.0 specification. EPA understands the concern regarding water coolers qualified under Version 1.3 and already placed on-site, and the ability of an end user to verify that at the time of placement the water cooler met ENERGY STAR requirements. EPA does archive final QPLs on the ENERGY STAR website prior to the new specification taking effect, which will provide customers the opportunity to see what models met the older requirements at the time of placement. As water coolers are returned to the distributor or manufacturer for purposes of refurbishment and/or replacement, efforts should be made to cover or remove the ENERGY STAR label if it does not meet the new Version 2.0 requirements prior to being installed at a new customer site.</p>
12	<p>The Test Method should include metric conversions (e.g., degrees Fahrenheit to degrees Celsius, pounds to grams, feet to meters, etc.).</p>	<p>Although the Water Cooler Test Method has been finalized, DOE did include metric conversions in a revised version (Rev. March-2013) released with the Final Draft Version 2.0 specification.</p>
13	<p>Rather than allowing a range of 10 - 80% RH, the Test Method should use the ASTM RH standard of 50%. An allowable level of 70% RH would affect the temperature outcome and efficiency of the UUT, potentially resulting in accuracy and repeatability issues.</p>	<p>DOE initially considered decreasing the relative humidity range during testing; however, DOE decided against this to minimize the test burden associated with utilizing a climate controlled chamber to maintain a smaller relative humidity range. DOE intends to investigate the impact of relative humidity conditions on Water Cooler energy consumption and overall water delivery performance as part of a future test method revision.</p>
14	<p>Rather than prohibiting devices with artificial means of increasing the airflow within 6 feet of the UUT, DOE is encouraged to adopt a max air flow rate. It is possible to have a large fan set up more than 6 feet away from, and blowing at, the UUT that could influence the test.</p>	<p>The Water Cooler Test Method was finalized on September 27, 2012 and no substantive changes will be made until the next version. DOE may investigate the feasibility of including a maximum air flow as part of a future test method revision.</p>
15	<p>The "bottle supply water temperature measurement device" (probe) language appears to be written for a standard no cap (spill) bottle cooler application. DOE should consider a rewrite to state that the temperature probe needs to be above the point where water is drawn into the cooler from the bottle.</p>	<p>The Water Cooler Test Method was finalized on September 27, 2012 and no substantive changes will be made until the next version. DOE may investigate the issue of bottle supply water temperature probe placement as part of a future test method revision.</p>

16	The resolution of 0.05 lbm seems quite low and may allow for a larger measurement range than desired. DOE should consider an improved resolution of the scale in order to more accurately measure the water volumes.	DOE appreciates the input regarding the need for improved scale resolution. DOE agrees that better scale resolution will improve volume measurement accuracy, however, any changes that may potentially impact test burden must be proposed and input from all stakeholders must be considered. DOE may investigate the additional test burden of a more accurate scale as part of a future test method revision.
17	Since the On Mode with Water Draw test is not going to be required for certification, it is recommended that EPA revert back to the dispensed water temperature language that is currently in the V1.3 specification that states "These temperatures shall be measured before conducting the standby energy use test described in this specification when the respective function, compressor, or heating element turns on."	The Water Cooler Test Method was finalized on September 27, 2012 and no substantive changes will be made until the next version. However, EPA proposes making the following change in the Final Draft Specification under Table 2, "In Section 4.O, the Water Cooler Test Method requires that the dispensed water temperature be confirmed based on the initial temperature value recorded during the On Mode with Water Draw test. Because the On Mode with Water Draw Test is not required for ENERGY STAR qualification, the manufacturer may confirm the dispensed water temperature as follows, 'The temperatures shall be measured before conducting the On Mode with No Water Draw test when the respective function, compressor, or heater element turns on.' "
18	A minimum spacing requirement should be noted for the UUT as this will affect the performance of the product. Most water cooler manufacturers include this "minimum spacing" information within their product instructions. A minimum of 10 cm is suggested and used for most products.	Section 5.1.A of the Water Cooler Test Method states that the UUT must be assembled and set up in accordance with the manufacturer installation and use instructions, in addition to the UUT being placed a maximum of six inches from a test wall. In DOE's experience, manufacturer installation and use instructions regularly provide recommendations for minimum spacing of the unit from the wall. However, DOE requests information and data on how unit spacing impacts performance and may investigate the issue as part of a future test method revision.

19	<p>The Test Method should include an indication for when the hot water switch is to be turned on, if required i.e., after UUT has been powered on. To reduce testing time, an allowance should be added for manufacturers to start testing before the 12 hour standby period is up if the cooler operation has stabilized for a minimum of 4 hours. Most manufacturers are testing products internally for validation prior to shipments and a longer standby period means that products would need to be held longer prior to shipment approvals.</p>	<p>Section 5.3.A.3 of the Water Cooler Test Method states that the UUT shall be stabilized with the heater switch in the off position, where applicable. The heater switch should then be enabled prior to the start of testing outlined in Section 6.1. In the Final Draft, EPA proposes the following clarification under Table 2: "Section 5.3.A.3 of the Water Cooler Test Method states that the UUT shall be stabilized with the heater switch in the off position, where applicable. The heater switch should then be enabled prior to the start of testing outlined in Section 6.1. The heater switch may be enabled at any time during the 12 hour stabilization period, but shall complete at least one heating cycle before the start of testing."</p> <p>The 12 hour stabilization period required in the Water Cooler Test Method was selected based on the unit that took the longest to stabilize during testing, as described in Slide 13 of the Draft 2 Water Cooler Presentation (February 16, 2012). DOE may further investigate the stabilization period as part of a future test method revision.</p>
20	<p>The current Test Method requires the 24-hour test period to begin immediately following a compressor or heater on cycle. DOE should consider changing approach to require the 24-hour test period to begin immediately following a compressor cycle only, as some water dispensers incorporate an electronically controlled heater system which cycles more rapidly (i.e., heater cycles on/off every 2-3 seconds). Another concern with starting the test period immediately following a heater on cycle is that a cooling cycle might randomly start anytime within a few minutes or upwards of 1-2 hours.</p>	<p>DOE introduced the requirement to start the 24-hour test immediately following a compressor or heater on cycle to ensure that full compressor and/or heater cycles are captured in the On Mode with No Water Draw test. The requirement was also included to minimize flexibility in selecting a 24-hour test period. Additional testing is necessary to properly address this comment. Since the Water Cooler Test Method was finalized on September 27, 2012, no substantive changes will be made until the next version.</p>