Following is the Final Draft Version 3.0 product specification for ENERGY STAR certified water coolers. A product shall meet all of the identified criteria if it is to earn the ENERGY STAR.

1) **Definitions:** Below are the definitions of the relevant terms in this document.

A. **Water Cooler:** A freestanding device that consumes energy to cool and/or heat potable water. Products that have dispensing functions such as sparkling, alkaline, or flavored water, in addition to cold and hot water will also be recognized by the classification below.

   a. **Cold Only Units:** Units that dispense cold water only.
   
   b. **Cook and Cold Units:** Units that dispense both cold and room-temperature water.
   
   c. **Hot and Cold Units:** Units that dispense both hot and cold water.
   
   d. **Hot, Cook, and Cold Units:** Units that dispense hot, cold, and room-temperature water. Only units that simultaneously offer all three water temperature choices meet this definition.

**Note:** The definition for Hot, Cook, and Cold Units above was amended per stakeholder comments, to reflect that a unit must have the capability to dispense hot, cold, and room temperature water at the same time. Units where room temperature water is only provided when heating elements are deactivated do not qualify for this category. Products must offer room temperature water to users as an alternative to hot or cold water, not as an indirect result of deactivating other features.

B. **Water Source:**

   a. **Bottle:** A bottle or reservoir supplies water to the water cooler.
   
   b. **Point of Use (POU):** The water cooler is connected to a pressurized water source.
   
   c. **Conversion-type Water Cooler:** A unit that ships as either Bottle-source or POU and includes a conversion kit intended to convert the Water Cooler from a Bottle-source unit to a POU unit or to convert a POU unit to a Bottle-source unit.

C. **Water Conditioning:**

   a. **Conditioned Storage:** Hot and cold thermally conditioned water is stored in tanks located within the body of the water cooler. The conditioned water is available instantaneously.
   
   b. **On Demand Heating:** The unit heats water as it is requested (i.e., without a hot water storage tank), which typically takes a few minutes to deliver. On demand units use storage tanks to condition and provide cold water only.

D. **Product Family:** A group of product models that (1) are manufactured by the same manufacturer, (2) use the same primary energy source, and (3) have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.
E. **High Capacity Water Cooler:** A water cooler with a cold-water dispenser capacity that is greater than 0.50 gallons per hour, as measured per ANSI/ASHRAE Standard 18. For units that also provide hot water, the unit must have a hot-water dispenser capacity greater than 41 exact 6 oz. cups per hour, as rated per ANSI/ASHRAE Standard 18. These products provide adequate capacity for offices or other high-traffic installations.

F. **Low Capacity Water Cooler:** A water cooler with a cold-water dispenser capacity of 0.50 gallons per hour or less, as measured per ANSI/ASHRAE Standard 18. For units that also provide hot water, the unit must have a hot-water dispenser capacity that is equal to or less than 41 exact 6 oz. cups per hour, as rated per ANSI/ASHRAE Standard 18. These products provide adequate conditioned water for residential and other low-traffic installations while offering improved energy savings.

**Note:** EPA acknowledges the industry’s interest in distinguishing high and low capacity water coolers as appropriate for high-traffic (commercial) and low-traffic (residential) areas, respectively. In Draft 2, EPA proposed new categories for high and low capacity water coolers with distinct efficiency criteria. In addition, EPA introduced definitions for high and low capacity water coolers to reflect stakeholder comments that certain units offer higher dispensed amounts of cold and hot water per hour and that the high capacity units make up a large proportion of sales. In this Final Draft, EPA has revised the proposed definitions for high (Section 1.E.) and low (Section 1.F.) capacity water coolers.

Industry stakeholders commented that the previously proposed cold water capacity of 0.61 gallons per hour (GPH) should be revised to 0.50 GPH. EPA further investigated available information from the California Energy Commission’s appliance search database on capacity and on mode with no water draw energy consumption. As there were limited numbers of products with a cold water capacity above 0.50 GPH, EPA concluded that the previous capacity of 0.61 GPH would not be met by a large number of products. In light of this information, EPA determined that in order to include more high capacity water coolers, the cold-water dispenser capacity should be set to >0.50 GPH. This analysis is included in the Final Draft Data Package on Tab 7 ‘Cooling Capacity Analysis’. Out of all products that meet this cold water capacity requirement, 37 meet the 0.80 kWh/day proposed level for High Capacity Water Coolers.

EPA is also revising the hot-water dispenser capacity proposed limit, to greater than 41 exact 6 oz. cups per hour, based on the same available information. As there are a number of products that have a cold water capacity greater than 0.50 GPH and a hot water capacity of 42 cups per hour, EPA has extended the definition of high capacity units to include these products. Per commenters’ requests, this analysis is included in the Final Draft Data Package on Tab 8 ‘Heating Capacity Analysis’. Out of all products that meet this hot water capacity requirement, 10 models meet the 0.80 kWh/day proposed level for High Capacity Water Coolers.

G. **Test Modes:**

a. **On Mode with No Water Draw:** A test that records the 24-hour energy consumption of a water cooler with no water drawn during the test period. This test is also known as “Standby”.

b. **On Mode with Water Draw:** A test that records the energy delivered in a water draw and the subsequent energy consumed while recovering from that water draw.

- **Section 6.2. On Mode with Water Draw – All Unit Types** Test cold water draw in Conditioned Storage units and On Demand units, and test hot water draw in Conditioned Storage units,

- **Section 6.3. On Mode with Water Draw – On Demand Units Only** Test hot water draw in On Demand units.

- **Section 7.6. On Mode Water Draw Performance (OMP):** A metric for water draw performance that compares the energy delivered and energy consumed by the water cooler.
2) Scope:

A. **Included Products:** Products that meet the definition of a water cooler as specified herein are eligible for ENERGY STAR certification, with the exception of products listed in Section 2.B. Products with additional dispensing features including sparkling, alkaline, or flavored water, are also included in the scope of this specification.

B. **Excluded Products:** Units that provide pressurized water and are not free standing (i.e., wall mounted, under sink, or otherwise building integrated) are not eligible for ENERGY STAR. Air-source units and other units with a water source other than bottled or tap water (POU) are not eligible. Units with provisions for making, storing and dispensing small amounts of ice and units that are primarily ice makers that have a water dispensing function, or that meet the definition of an Automatic Commercial Ice Maker (ACIM) as defined by the ENERGY STAR Product Specification for that category, are not eligible for the water cooler product category.

3) Certification Criteria:

A. **Energy Efficiency Requirements:**

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Conditioning Method</th>
<th>Capacity</th>
<th>On Mode with No Water Draw (kWh/day)</th>
<th>OMP for Cold Water Draw</th>
<th>OMP for Hot Water Draw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Only &amp; Cook and Cold units</td>
<td>Conditioned Storage</td>
<td>All</td>
<td>≤ 0.16</td>
<td>Reported</td>
<td>N/A</td>
</tr>
<tr>
<td>Hot and Cold &amp; Hot, Cook, and Cold Units</td>
<td>Conditioned Storage</td>
<td>Low-Capacity</td>
<td>≤ 0.68</td>
<td>Reported</td>
<td>Reported</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High-Capacity</td>
<td>≤ 0.80</td>
<td>Reported</td>
<td>Reported</td>
</tr>
<tr>
<td>Hot and Cold &amp; Hot, Cook, and Cold Units</td>
<td>On Demand Heating</td>
<td>All</td>
<td>≤ 0.18</td>
<td>Reported</td>
<td>Reported</td>
</tr>
</tbody>
</table>

B. **Significant Digits and Rounding:**

a. All calculations shall be carried out with actual measured or observed values. Only the final result of a calculation shall be rounded. Calculated results shall be rounded to the nearest significant digit as expressed in the corresponding specification limit.

b. Unless otherwise specified, compliance with specification limits shall be evaluated using exact values without any benefit from rounding.

C. **Additional Reporting Requirements:**

a. Report the cold water capacity per hour, tested per ANSI/ASHRAE 18-2008 (RA 2013), Section 5.7 Capacity Test for Ratings, in gallons per hour.

b. For all hot and cold and hot, cook, and cold units, report the hot water capacity per hour, tested per ANSI/ASHRAE 18-2008 (RA 2013), Section 5.8 Hot-Water-Dispenser Capacity Test, in number of exact 6 fl oz draws per hour.
c. Report the type of refrigerant used in the respective water cooler unit, for example: R-410A, R-134a, or R-290.

4) Test Requirements:

A. A representative model shall be selected for testing per the following requirements:

a. For certification of an individual product model, the representative model shall be equivalent to that which is intended to be marketed and labeled as ENERGY STAR.

b. For certification of a product family, any model within that product family can be tested and serve as the representative model.

B. When testing water coolers, the following test method shall be used to determine ENERGY STAR certification.

Table 2: Test Method for ENERGY STAR Certification

<table>
<thead>
<tr>
<th>ENERGY STAR Requirement</th>
<th>Conditioning Method</th>
<th>Test Method Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Mode with No Water Draw</td>
<td>Conditioned Storage and On Demand</td>
<td>ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.1 and 7.1</td>
</tr>
<tr>
<td>OMP for Cold Water Draw*</td>
<td>Conditioned Storage and On Demand Heating</td>
<td>ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.2 and 7.6</td>
</tr>
<tr>
<td></td>
<td>Conditioned Storage</td>
<td>ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.2 and 7.6</td>
</tr>
<tr>
<td></td>
<td>On Demand Heating</td>
<td>ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.3 and 7.6</td>
</tr>
<tr>
<td>Hot-Water Dispenser Capacity</td>
<td>Conditioned Storage and On Demand Heating</td>
<td>ANSI/ASHRAE 18-2008 (RA 2013) 5.8 Hot-Water-Dispenser Capacity Test</td>
</tr>
</tbody>
</table>

* Note: OMP for Cold Water Draw and OMP for Hot Water Draw are required for reporting only.

5) Effective Date: This ENERGY STAR Water Cooler Specification shall take effect on March 1, 2022.

To qualify for ENERGY STAR, a product model shall meet the ENERGY STAR specification in effect on the model’s date of manufacture. The date of manufacture is specific to each unit and is the date on which a unit is considered to be completely assembled.

6) Future Specification Revisions: EPA reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions. In the event of a specification revision, please note that the ENERGY STAR certification is not automatically granted for the life of a product model.