



ENERGY STAR Water Coolers Draft 1 Version 2.0 Specification

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ENERGY STAR Stakeholder Meeting

September 27, 2012



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Purpose of Specification Revision



- ENERGY STAR market penetration is high
 - Revisit On Mode with No Water Draw levels
- Changes made to ENERGY STAR Test Method (Rev. Sept-2012)
- Consider inclusion of On Mode with Water Draw criteria
 - Evaluate potential savings opportunity
- Bring category in line with new 3rd Party certification requirements



Draft 1: New Definitions

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

Definitions cont.



- Storage: Thermally conditioned water is stored in a tank in the water cooler and is available instantaneously.
- On Demand: The water cooler heats water as it is requested, which typically takes a few minutes to deliver.
- New test terminology, including the metric:
 - On Mode Water Draw Performance (OMP): A metric for water draw performance that compares the energy delivered and energy consumed by the water cooler.

Draft 1: Scope Clarification



- Excluded Products
 - Air-Source units and units with a water source other than bottled or tap water (POU)

Draft 1: Performance Levels



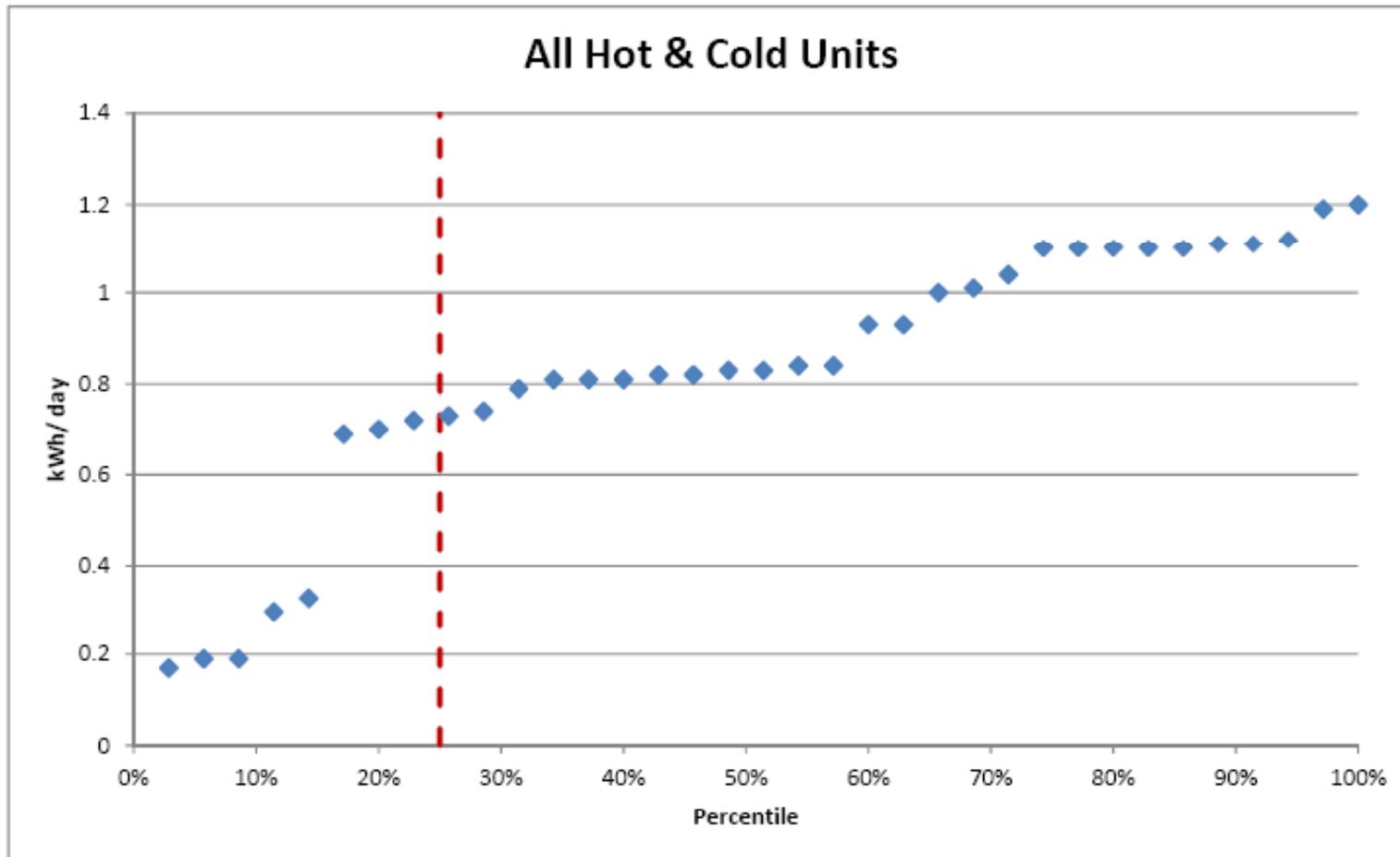
Table 1: Energy-Efficiency Criteria for ENERGY STAR Qualified Water Coolers	
Water Cooler Category	Qualification Levels
On Mode with No Water Draw	
Cold only and Cook and Cold units	≤ 0.16 kWh/day (<i>no change</i>)
Hot and Cold units – Storage-type	≤ 0.81 kWh/day
Hot and Cold units – On Demand	≤ 0.18 kWh/day
On Mode with Water Draw	
TBD	TBD

On Mode with No Water Draw

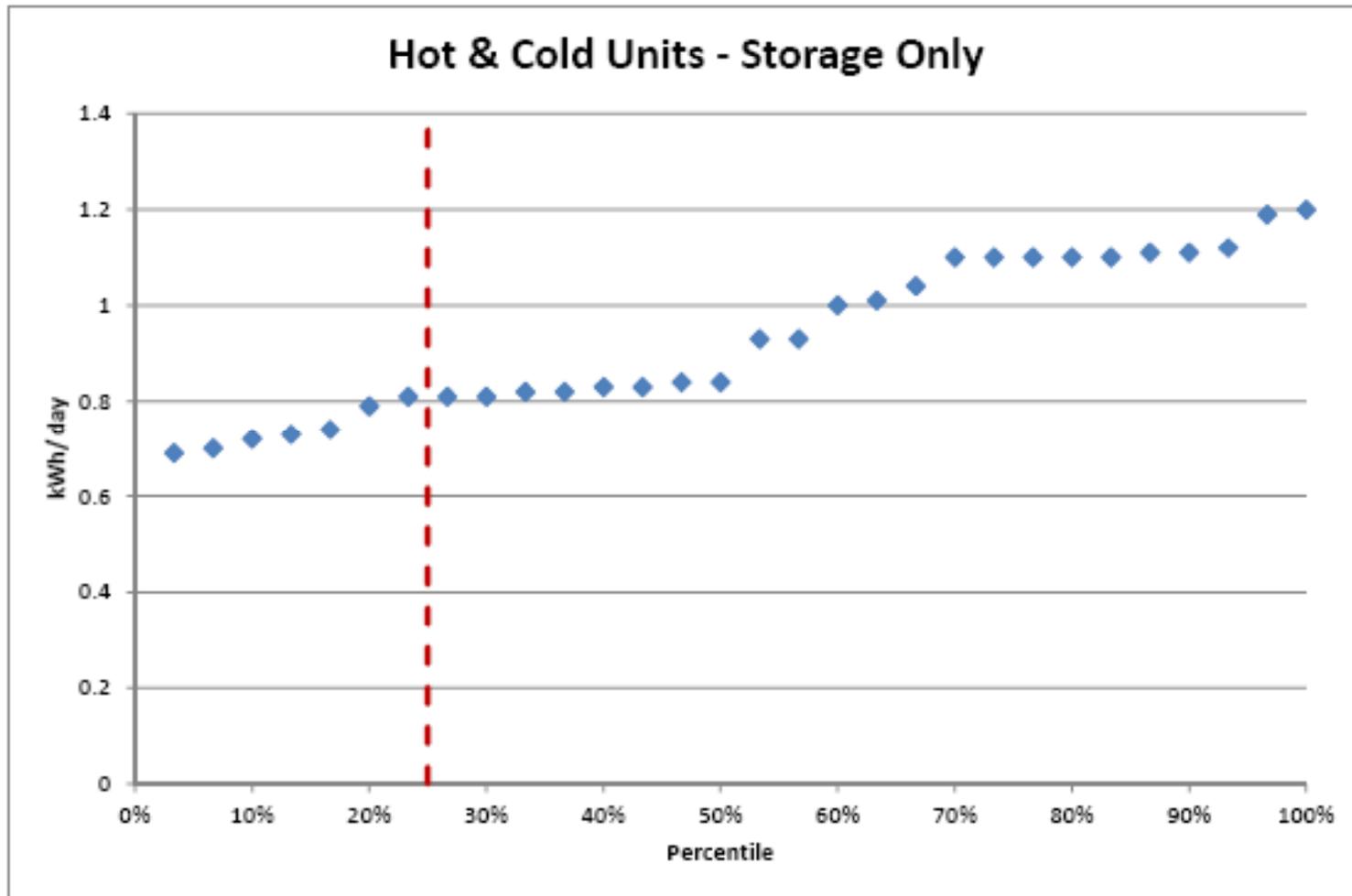


- Analyzed Aug-2012 ENERGY STAR QPL
- Existing Cold Only/Cook and Cold level still representative of top performers
- Split Hot and Cold category into two subcategories, Storage and On Demand
 - Based on differences in application
- Draft 1 Storage level is about 25% of available models
 - On Demand level based on DOE testing and small data set --- more data needed

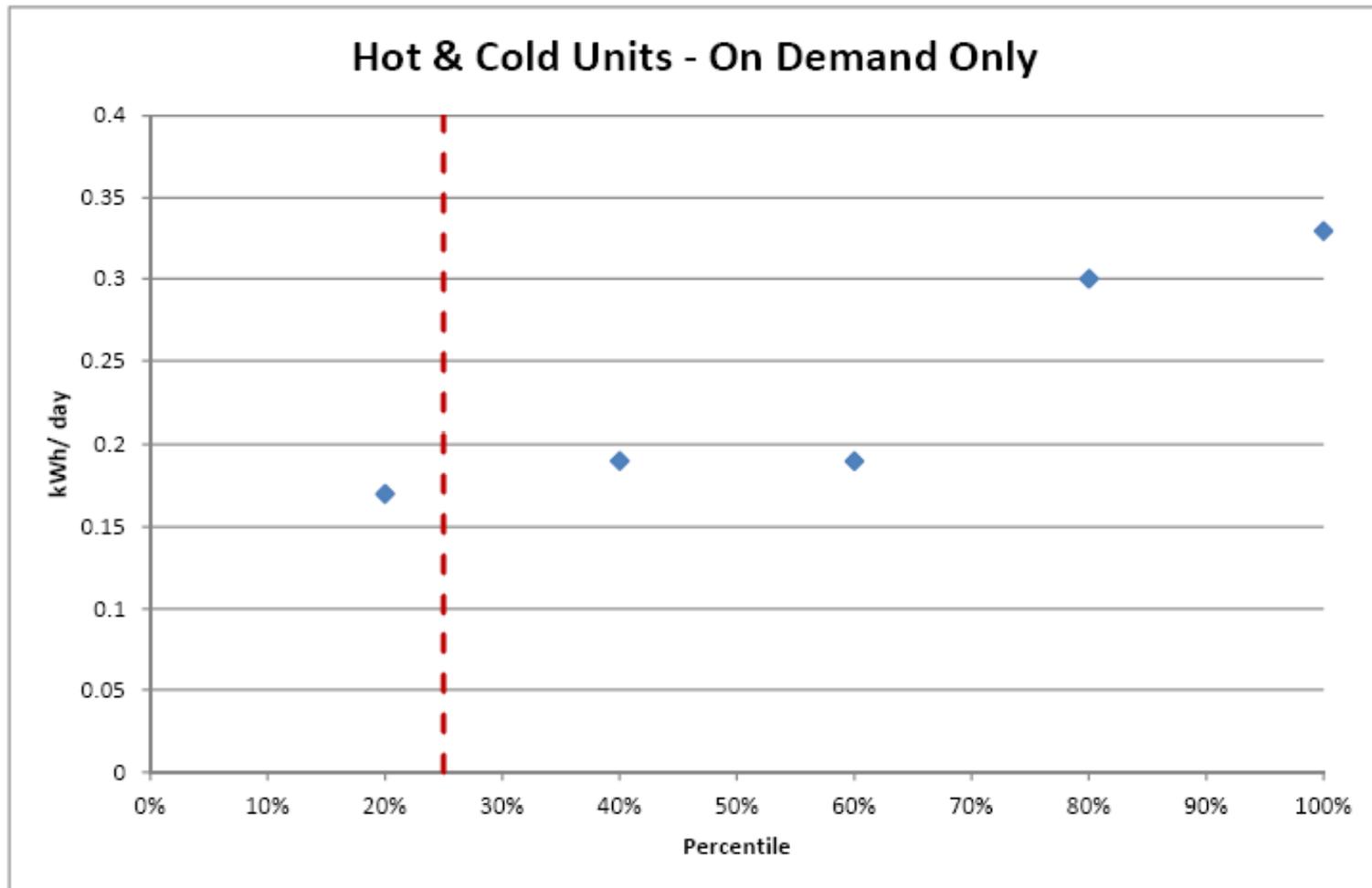
Hot/Cold: All Data



Hot/Cold: Storage Type Data



Hot/Cold: On Demand Data



On Mode with No Water Draw



Credit for Energy Saving Devices

- Test unit with the energy saving feature disabled following Sections 6.1 and 7.1 in ES Test Method(Q_{24hr})
- Repeat the test with the energy saving feature enabled.($Q_{24hr \text{ EnergySaving}}$)
 - Water temperatures do not need to conform to Test Method (Section 4.0) during testing
- Apply Equation for qualification
 - $Q_{24hr \text{ Modified}} = 0.5 * Q_{24hr} + 0.5 * Q_{24hr \text{ EnergySaving}}$
 - Assumes thermally conditioned water will be available to users over a 12 hour period during a day, and the water during this period will meet Test Method requirements
- Features must be enabled at time of shipment

On Mode with Water Draw



- EPA seeks data based on new On Mode with Water Draw test method
 - Will inform decision regarding inclusion of On Mode with Water Draw efficiency criteria in Version 2.0
- What is the savings opportunity associated with On Mode with Water Draw mode?
 - Including time products remain in On Mode with Water Draw before returning to a low power state
- What are the costs associated with testing On Mode with Water Draw?

Potential Energy Savings V2.0



Water Cooler Type	Current ENERGY STAR V1.3 Criteria (kWh/day)	Revised ENERGY STAR V2.0 Criteria (kWh/day)	Savings - (kWh/year)
Hot & Cold (Storage)	1.2	0.81	142
Hot & Cold (On Demand)	N/A	0.18	Category Is New
Cold Only / Cook & Cold	0.16	0.16	No Change In Criteria

Potential Carbon Savings V2.0



- If every Hot and Cold water cooler (100%) in the U.S. was replaced with a new ENERGY STAR qualified model...

carbon savings = 0.14 MMTe / yr

To convert to CO2 equivalent multiply by 3.67

Water Cooler Type	Current Stock (Millions)(1)	Average Annual Savings Potential (Million kWh/yr)	Annual Carbon Reduction Potential (Million Metric Tons /yr)
Hot & Cold (Storage)	5,276,143	749	0.14

Questions and Discussion



- Draft 1 Version 2.0 Criteria
- Data Collection Process
- Final Test Method (Rev. Sept-2012)
- Third-Party Certification

Revision Timeline



- October 12, 2012 --- Draft 1 comments due to EPA (watercoolers@energystar.gov)
- November 9 --- Data assembly effort ends
- Late November --- Draft 2 released
- December --- Draft 2 comments due
- January 2013 --- Final Draft released
- February --- Version 2.0 Final released
 - Effective: November 2013

Version 2.0 Qualification



- Products can be submitted through EPA recognized CB **once finalized**
 - Including existing models qualified to V1.3
- **Effective Date:** only those models submitted by EPA recognized CBs will be listed and may be ENERGY STAR labeled
 - Existing products that aren't certified to V2.0 will drop from the list as of this date

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