



ENERGY STAR[®] Draft 1 Version 3.0 Refrigerated Beverage Vending Machine Specification

Stakeholder Webinar
January 24, 2012



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Agenda



- Background and Review of ENERGY STAR Guiding Principles
- Review of Draft 1 revisions
- Summary of key stakeholder comments
- Next Steps

Background



- DOE established minimum standards for vending machines, effective August 31, 2012
 - Machine Type B level equivalent to existing ES Tier 2
 - Machine Type A level more stringent than ES Tier 2
 - Applies only to new machines, not remanufactured
- EPA launched effort in March 2011 to determine whether to sunset or revise specification
- Based on data analysis and stakeholder comments, EPA sees an opportunity for greater energy savings
 - Draft 1 Version 3.0 released December 2, 2011

Guiding Principles for Specification Development



- Significant energy savings can be realized on a national basis
 - ENERGY STAR specifications are created only when the energy savings potential translates into tangible energy savings
 - Ensures ENERGY STAR qualified products deliver promised savings
- Product performance can be maintained or enhanced with increased energy efficiency
 - Label is not only a credible symbol for energy efficiency, but it is also found on products with the features and performance that consumers demand

Guiding Principles, cont.



- Purchasers recover their investment in increased energy efficiency within a reasonable period of time
 - Some energy-efficient products may have a price premium while others do not. Maximum ROI is around 5 years
 - Every product has *two price tags*:
 - 1) initial cost of the product at purchase, and
 - 2) cost of energy to operate over products lifetime
- Energy-efficiency can be achieved through several technologies
 - Specifications take a technology neutral approach
 - Do not favor one manufacturer over all others by designating a proprietary technology or unique design approach when establishing or revising the performance attributes of an ENERGY STAR product specification

Guiding Principles, cont.



- Product energy consumption and performance can be measured and verified with testing
 - Available, industry accepted test procedure
 - Several manufacturers and products represented
 - Target top 25% in terms of energy efficiency
- Labeling would effectively differentiate products and be visible for purchasers
 - ENERGY STAR's goal is to provide value to purchasers by enabling them to easily identify energy-efficient products that have earned the label
 - EPA develops and revises specifications so they reflect the performance of products meeting the highest conservation standards

Specification Development Cycle



Draft 1: Definitions/Scope



Goal: Harmonize with DOE standards (Section 10 CFR 431.292, Subpart Q)

- *Refrigerated beverage vending machine* and *subcategory* definitions revised
- *Standard product* and *vendible capacity* definitions removed
 - Continue to collect this information for posting to website, product comparison
- New definition for *basic model*
 - For purposes of testing representative models

Definitions/Scope cont.



- Focus continues to be on *refrigerated beverage* vending machines
- Covers new and remanufactured machines
 - Fully cooled (Machine Type A)
 - Zone cooled or stacked machines (Machine Type B)
- Combination machines are not eligible under Version 3.0

Definitions/Scope cont.



- EPA is proposing to continue covering *new and remanufactured* machines because:
 - Remanufactured data suggests efficiencies similar to new machines are achievable using current machine-component combinations
 - End user is unable to decipher between new and remanufactured machine when placed on-site

Stakeholder Comments



- General support for harmonization with DOE
- New vs. Remanufactured, conflicting comments:
 - EPA should sunset new machine program and keep remanufactured machines at current ES Tier 2 levels
 - Levels for new and remanufactured should be the same, end users don't know the difference and will simply request ENERGY STAR
- **EPA is interested in discussing this further with industry stakeholders**

Comments cont.



- Suggestion to clarify “combination machine” definition
 - **Existing definition:** A refrigerated beverage bottled or canned beverage vending machine that also has non-refrigerated volumes for purpose of vending other, non-”sealed beverage” merchandise.
 - **Proposed new definition:** A vending machine configurable as either a fully cooled or zone cooled vending machine capable of refrigerating and dispensing canned and bottled beverages as well as other non-” sealed beverage” merchandise.

Comments cont.



- Combination machines should be included in the Version 3.0 scope
 - CEC and NrCan recognize these machines as “multi-package”
 - Suggestion to test in worst case configuration, fully cooled (max volume refrigerated)
 - Require compliance with Machine Type A levels
- **EPA is interested in discussing this further with industry stakeholders**

Draft 1: Performance Levels



Goal: Continued differentiation in the marketplace and significant energy savings above DOE standard levels

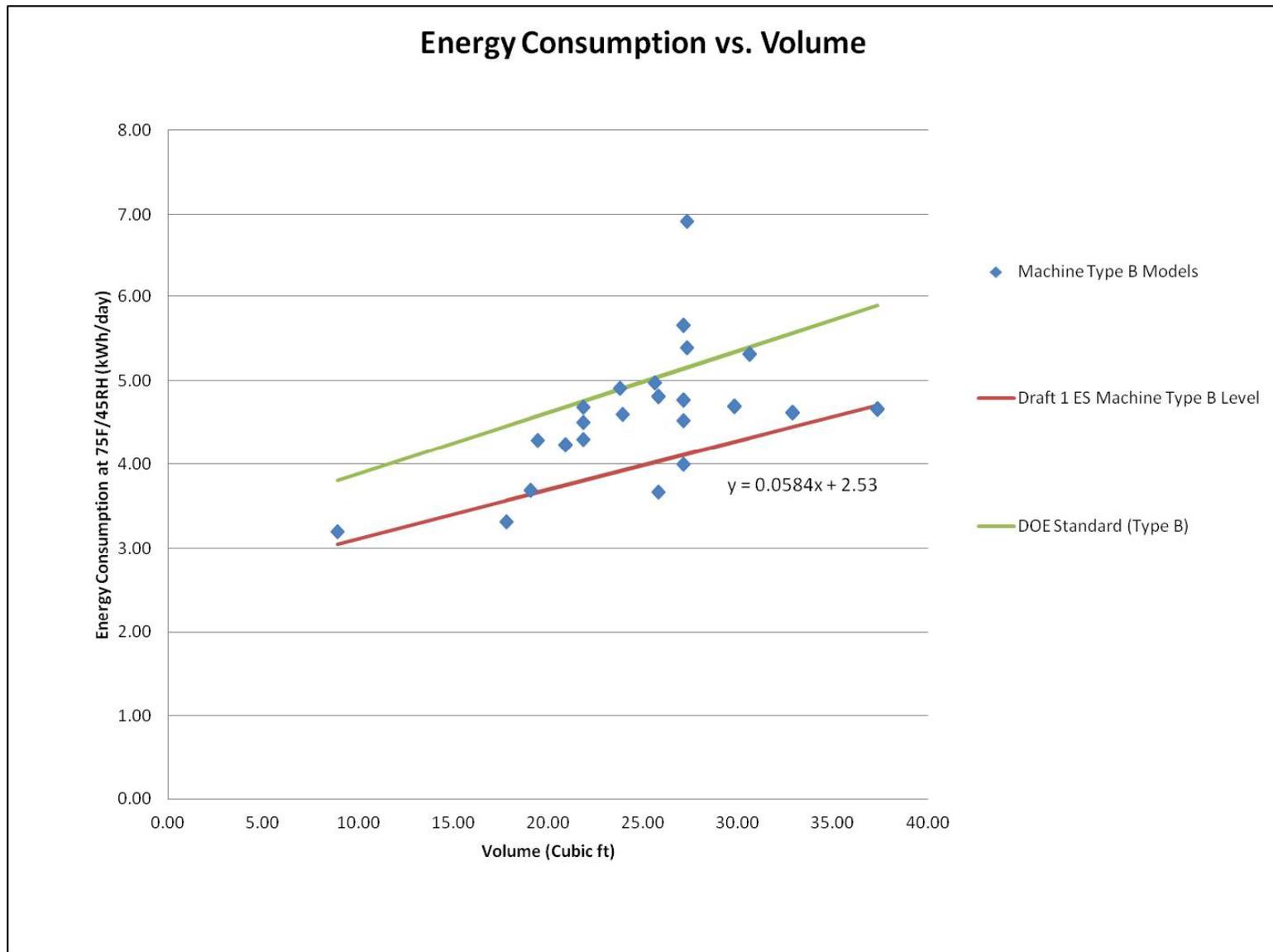
- New Metric – Maximum Daily Energy Consumption (MDEC) based on volume
 - Refrigerated volume measured by the ANSI/AHAM HRF-1-2004, “*Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers.*”
 - Harmonizes with DOE approach

Performance Levels cont.

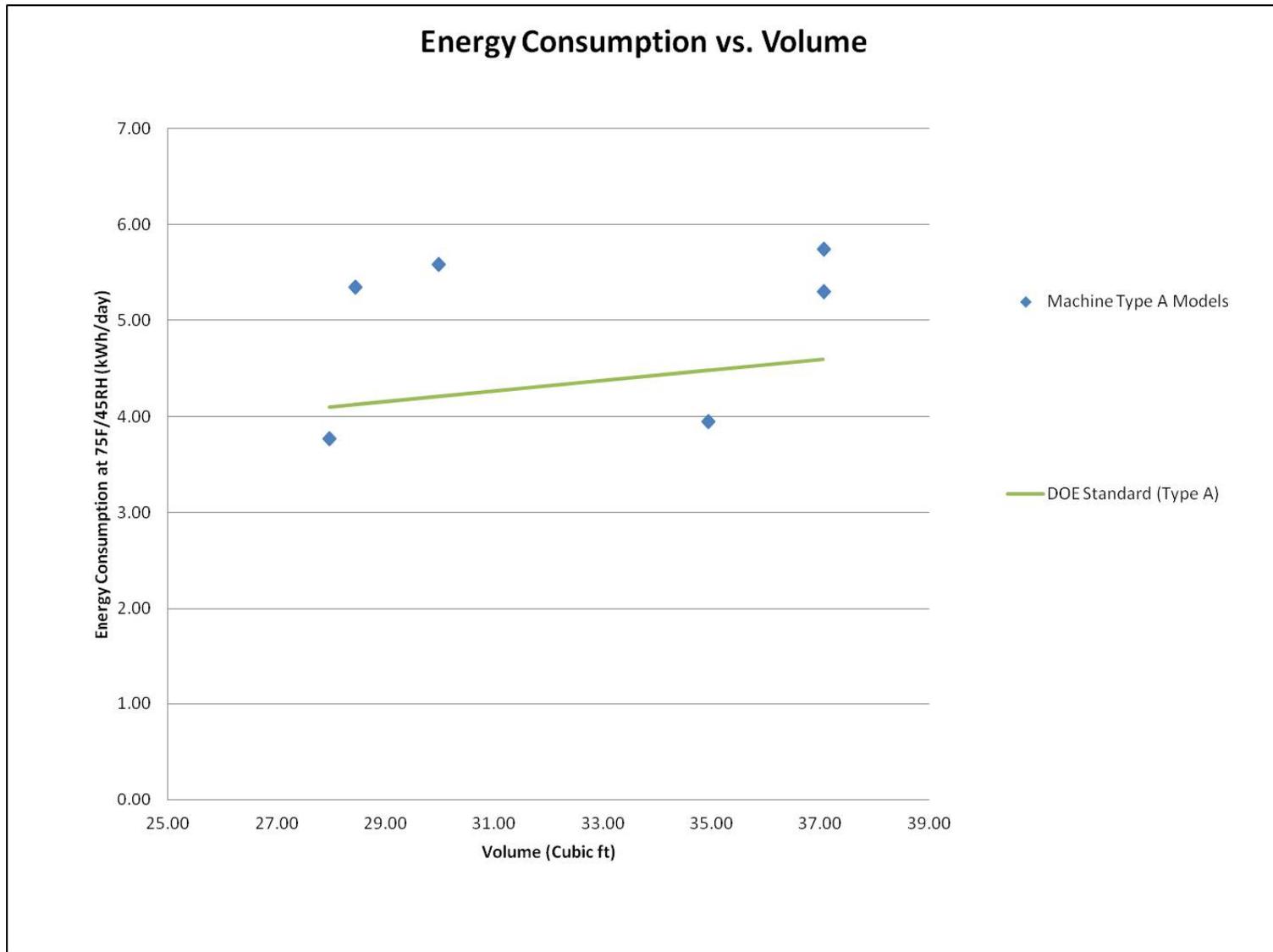


- Data set used in analysis includes ENERGY STAR QP list and manufacturer submitted data
 - Including new volume data
- For *Machine Type B*, opportunity for additional savings – 20% better than DOE is proposed
- For *Machine Type A*, path forward is not clear
 - Limited data set – more data needed to evaluate
 - DOE standard line shows levels are difficult to meet
 - Initial discussions with manufacturers suggests levels met through power management, not hardware

Analysis: Machine Type B



Analysis: Machine Type A



Stakeholder Comments



Machine Type B Level

- 20% more efficient is too stringent
- Movement toward use of low GWP refrigerants could increase machine energy consumption
- Data used is not representative of machines available for purchase later in 2012

Machine Type A Level

- Manufacturers with machines that meet DOE levels are doing so only through power management
- Sunset Machine Type A, nowhere else to go
- EPA received no additional data points

Low GWP Refrigerants



- Industry commitments to move to HFC-free refrigerants (e.g., R134a to CO₂)
- Early indication is that these machines will use more energy, at least 1st generation
- OEMs currently exploring options at optimizing energy performance of machines to match current R134a performance
 - Should have a better idea over the next 6 months as new component suppliers come into the market
- **EPA is interested in discussing this further with industry stakeholders**



Draft 1: Effective Date

- Proposed effective date is August 31, 2012
- All vending machines must be third party certified to qualify under Version 3.0
 - Tested by EPA-recognized laboratory and certified by EPA-recognized certification body
 - Retesting may not be required if:
 - Currently qualified machine meets the new Version 3.0; and
 - Machine has been tested under the conditions outlined by DOE; and
 - Testing entity meets the requirements of the ENERGY STAR third party certification program.
 - More information: www.energystar.gov/3rdpartycert

Stakeholder Comments



- Move back to 2013 to allow OEMs time to:
 - Finalize new designs with low GWP refrigerants
 - Support and transition to new DOE standards
 - Revisit DOE compliant designs to identify tweaks needed to meet new ES levels as proposed (e.g. 20%)
- Dates Proposed: January and August 2013

Next Steps



- EPA to review comments submitted on Draft 1 and shared during this webinar
- February – Release a subsequent draft for review and comment
- March/April – Finalize Version 3.0 specification
 - NAMA Show in Las Vegas, April 25 - 27, 2012
- August 31, 2012 – Version 3.0 takes effect

ENERGY STAR Contacts



- Christopher Kent, EPA
 - (202) 343-9046
 - kent.christopher@epa.gov
- Rebecca Duff, ICF International
 - (434) 202-7875
 - rduff@icfi.com