



Serving the Vending, Coffee Service and Foodservice Management Industries

Ms. Brenda Edwards
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Via email: BVM2013STD0022@EE.DOE.gov

August 15, 2013

**RE: Framework Document for Refrigerated Beverage Vending Machines
Docket No. EERE-2013-BT-STD-0022
RIN No. 1904-AD00**

Dear Ms. Edwards:

The National Automatic Merchandising Association (NAMA) respectfully submits the following comments to the 2013 Rulemaking Framework for Refrigerated Bottled or Canned Beverage Machines. As the national trade association of the food and refreshment vending, coffee service, and food service management industries, we, along with our coalition partners in vending machine manufacturing appreciate the continued opportunity to work with the Department of Energy (DOE) regarding conservation standards.

Should you have any questions regarding NAMA or the comments and information provided below, please feel free to contact me by phone at (571) 346-1902 or via email at edell@vending.org.

Sincerely,

Eric Dell
Senior Vice-President, Government Affairs

cc: Carla Balakgie, NAMA President & CEO
Dan Mathews, NAMA VP & COO

*Please note the acronyms for the following:

- Refrigerated Beverage Machines = RBVM
- Beverage Machines = BVM
- Full Line Operators = FLO

Item 1-1

DOE requests comment regarding adoption of updated test procedure for the beverage vending machines covered under this rulemaking.

- **ANSWER:**

NAMA agrees with updating the standard with the latest revision of ANSI/ASHRAE 32.1.-2010

Item 1-2

DOE requests comment on the possible elimination of the requirement to test units at 90 °F.

- **ANSWER:**

NAMA agrees with the elimination of the methodology used to test units at a 90 °F ambient test condition.

Item 1-3

DOE requests comment regarding a requirement of measurement of product temperatures at other than the next-to-vend positions.

- **ANSWER:**

A. Clarifying the next-to-vend beverage temperature test condition:

NAMA does not support this change.

Explanation - *DOE should average the temperature data across all next to vend selections and over the entire test period. There is no evidence to suggest that variations in temperatures will impact energy use so long as temperature is averaged for the test period as per current procedure.*

Rationale - *Vending machines have varying defrost periods during the test period based on design, capacity etc. and the individual 'next to vend' selections or the average temperature of these are typically outside the 36 °F (±1 °F) range per existing technology.*

- B. Testing RBVM that cannot achieve an average temperature of next-to-vend products of 36 °F (± 1 °F) to instead be tested at their lowest application product temperature at lowest application product temperature:

NAMA does not support this change.

It is NAMA's contention that test procedures should use ANSI approved technical standards since deviations from portions of standards creates confusion regarding clarity of test results, creates unfair advantage for underperforming models/ manufacturers and creates potential for confusion among consumers attempting to understand the fine print of different results each at a different MDEC.

- C. DOE is considering amendments to the test procedure to require additional temperature data. Specifically, DOE is considering requiring temperature measurements of standard test packages at locations other than the next-to-vend position as part of this test procedure rulemaking:

NAMA does not support this change

It is NAMA's contention that test procedures should use ANSI approved technical standards since deviations from portions of standards creates confusion regarding clarity of test results, creates unfair advantage for underperforming models/ manufacturers and creates potential for confusion among consumers attempting to understand the results.

Rationale- *Location of thermocouples required for proposed temperature measurement are not specified in ANSI/ASHRAE Standard 32.1-2010, the addition of thermocouples will increase time and cost of testing and will create undue hardship on small manufacturers requiring them to expand their laboratory equipment and resources.*

Further, NAMA believes that in order to simplify the placement of thermocouples and measurement locations we should continue to use the "next to be vended" package as the point in which all temperature measurements are made. By allowing or requiring temperature measurements in additional locations we create more ambiguity within the test. Also, products located within other regions of the cabinet may find themselves colder or warmer depending upon the design of the equipment. By measuring the "Next to be vended" packages, we are focusing only on the products that are prepared or conditioned for immediate sale to the customer and consumption.

Item 1-4

DOE requests comment on the current utilization of low-power modes in certification testing. Do any current models meet the requirements of the current test procedure regarding energy management controls and utilize a low-power mode during the test?

- **ANSWER:**

It is NAMA's understanding that some machine manufacturer's equipment employs power management theory in the design and operation of all can and bottle vending equipment. This power management machine activity is defined by the Original Equipment Manufacturer (OEM) and cannot be disabled by the end user in any way.

There are some machine manufacturers that have equipment with energy management features built into the software that does not meet the requirement as defined by the ANSI/ASHRAE Standard 32.1-2010 because the user can modify the energy management settings.

Item 1-5

DOE requests comment on the testing of low-power modes in a revised test procedure. What are the typical functions of low-power mode in beverage vending machines? Are these low-power modes triggered by scheduled timers, activity, motion sensors, or other environment or state changes? What lengths of time should DOE consider for the full-power mode and low-power mode?

- **ANSWER:**

NAMA believes that all equipment should be tested as supplied by the factory and only low power modes that cannot be disabled by the end user be included in the test. Any user defined options or power modes that can be "turned on/off" allow the opportunity for the misrepresentation of the equipment's energy consumption as these options may never be enabled by the end user. This allows for even more ambiguity within the test method and could potentially require a machine to operate under conditions that are not intended by the Original Equipment Manufacturer resulting in lower or higher energy consumption.

Expanded range of lighting and control settings:

It is also NAMA's contention that test procedures should use ANSI approved technical standards since deviations from portions of standards creates confusion regarding clarity of test results, creates unfair advantage for underperforming models/ manufacturers and creates potential for confusion among consumers attempting to understand the variation of results.

NAMA recommends that the machine should be tested per (a) manufacturer's

recommended mode of operation under normal conditions OR (b) as shipped by manufacturer (whichever of the two test condition that has the higher energy use).

Item 1-6

DOE requests comment on the applicability of the current test procedure, and all test procedure modifications under consideration, to combination vending machines.

- **ANSWER:**

Machines currently classified under the regulations as refrigerated can and bottle vending machines are inherently different than combination vending machines. Combination vending machines have the opportunity to provide endless potential combinations of products available for sale. Also, combination vending machines are specifically designed in almost all cases to dispense perishable products and food items. They also provide countless machine configurations where today's traditional can and bottle vending machine is designed in such a way it is not flexible towards machine configurations or its combination of potential packages/products for sale.

Item 1-7

DOE requests comment on its proposal to consider modifications to the test procedure to account for energy management systems.

- **ANSWER:**

NAMA believes that all equipment should be tested as supplied by the factory and only low power modes that cannot be disabled by the end user be included in the test. Any user defined options or power modes that can be "turned on / off" allow the opportunity for the misrepresentation of the equipment's energy consumption as these options may never be enabled by the end user. This allows for even more ambiguity within the test method and could potentially require a machine to operate under conditions that are not intended by the Original Equipment Manufacturer resulting in lower or higher energy consumption. If and energy management system is incorporated into the OEM design of the vending machine and cannot be defeated or removed by the end user, only then should it be considered.

Creating a provision to measure the impact of low-power modes of operation:

NAMA does not support this change, as the test procedures should use ANSI approved technical standards since deviations from portions of standards creates confusion regarding clarity of test results, creates unfair advantage for

underperforming models/ manufacturers and creates potential for confusion among consumers attempting to understand the variation of results. Additionally, such tests should not be conducted or accepted if the average product temperatures cannot be maintained within 36 °F (± 1 °F) as specified in ANSI/ASHRAE Standard 32.1-2010.

Item 3-1

DOE seeks information that would contribute to the market assessment (e.g., the manufacturers of this equipment in the United States and the equipment they sell, by equipment class). It is particularly important that DOE be aware of the major and small/niche manufacturers.

- **ANSWER:**

Most of NAMA's equipment manufacturer members manufacture and sell both zone cooled, solid front venders (Class B) and fully cooled, glass front venders (Class A). There is a segment of those members that do not manufacture or sell combination vending machines.

Item 3-2

DOE seeks information on historical annual equipment shipments (both domestic and imports) by equipment class and the corresponding efficiency distributions of these shipments.

- **ANSWER:**

NAMA is unable to provide information on the historical annual equipment shipments (domestic and imports) by equipment class and the corresponding efficiency distributions of the shipments as that is considered confidential manufacturer sales information. The inability to disclose such information is due to there being too few machine manufacturers operating in the marketplace for the sales information (based on equipment type/class) to be released and the manufacturers to keep their anonymity.

Item 3-3

DOE seeks information on the proportion of new equipment shipped annually that replaces existing equipment, for each equipment class.

- **ANSWER:**

NAMA is unable to provide exact data/information on the proportion of new equipment shipped annually that replaces existing equipment. However, NAMA estimates that the proportion of new equipment shipped varies widely year-to-year depending upon customers' purchase programs; it can range from 25% to 75% or more.

Item 3-4

DOE requests comment on whether all transparent-front beverage vending machines currently available on the market are fully cooled.

- **ANSWER:**
All equipment classified as a transparent-front beverage vending machine is fully cooled.

Item 3-5

DOE requests comment on whether all opaque-front beverage vending machines currently available on the market are zone cooled.

- **ANSWER:**
All equipment classified as an opaque-front beverage vending machine is zoned cooled.

Item 3-6

DOE requests information on perishable items in beverage vending machines. Do machines that sell perishable and non-perishable items (in addition to or including beverages) ship with different software or controls? Are they rated differently, such as to food safety specifications? What portion of the BVM market is composed of machines that sell perishable items?

- **ANSWER:**
It is NAMA's understanding that there are combination machines (that sell perishable and non-perishable items in addition to or including beverages) that ship with perishable software controls as specified by the customer. Additionally, operators are usually able to easily change the software (on site) based upon the product mix or specifications. NAMA is unable to provide exact figures (or percentages) on the portion of the BVM market comprised of machines that sell perishables that are in actual use.

Item 3-7

DOE seeks comment on the equipment classes for beverage vending machines and on the criteria used in creating the classes. Are the equipment classes appropriate? Are there other factors that should be considered in equipment class distinctions and definitions?

- **ANSWER:**
NAMA agrees with the current classifications described within the current

rulemaking as appropriate.

Item 3-8

DOE seeks comment regarding the possible use of alternative equipment classes in this rulemaking. Specifically, are there other equipment characteristics that should be considered for equipment class distinctions and definitions?

- **ANSWER:**
NAMA agrees with the current classifications described within the current rulemaking as appropriate.

Item 3-9

DOE seeks comment on the proposed definition of “fully cooled vending machine.” Does the current language reflect what is used in industry?

- **ANSWER:**
NAMA agrees with the current definition as specified in ANSI/ASHRAE-32.1-2010.

Item 3-10

DOE requests comment on the creation of a new equipment class for machines that are manufactured and sold to vend perishable items (including or in addition to beverages). How should DOE define equipment sold to vend perishable items? Does this equipment obtain other certifications for vending perishable items? Is it common for beverage vending machines to vend both perishable and non-perishable items? Is the same beverage vending machine offered to vend both perishable and non-perishable items (i.e., the equipment is not currently differentiated in the marketplace)?

- **ANSWER:**
In NAMA’s opinion, the market for this type of equipment is not a significant contributor of total energy used by RBVM, therefore additional equipment classification is not needed.

Item 3-11

DOE requests comment on whether any technologies or designs should be added to or removed from the above list. For example, do any of the technologies above raise issues with proprietary designs or issues where testing pursuant to the DOE test procedure does not reflect a change in measured energy efficiency?

- **ANSWER:**
NAMA is unaware of any proprietary designs or technologies.

Item 3-12

DOE requests comments, recommendations, and data on max-tech levels for Class A equipment, Class B equipment, and combination vending machines.

- **ANSWER:**

It is NAMA's understanding that manufacturers are consistently being asked to develop equipment that combines other products and components that impart additional functionality over and beyond cooling of beverages. Based on the type of combinations, this type of equipment is generally considered to be outside the scope of ASHRAE32.1-2010 test procedure. NAMA anticipates an increasing number of requests for such components.

NAMA recommends an alternate energy specification for such combinations. RBVM's that incorporate off the shelf components and contribute to increased energy use but also have a parallel DOE requirements for energy consumption – such as LCD or LED monitors, commercial computer systems etc. – should be evaluated for energy use based on discrete, individual values for RBVM plus additional allowance for each such components based on applicable DOE standards.

Item 3-13

DOE requests comment on whether max-tech levels can only be achieved using proprietary designs or whether there are alternative design paths available that can achieve the same energy use level?

- **ANSWER:**

NAMA is unaware of any proprietary designs or technologies.

Item 3-14

DOE requests comment on whether any technologies or designs should be treated individually, or be incorporated into a few standard “design packages.” If “design packages” are possible, how should the packages be assembled? DOE would develop potential standard levels based on these packages, but manufacturers could meet any established standards through the use of any design options.

- **ANSWER:**

NAMA does not believe that any bundling or packaging of future technologies should be reviewed or incorporated when considering potential standard levels. Current construction of the can and bottle vending equipment is already comprised of many combinations or packages of technologies to meet the current standards for energy efficiency.

Manufacturers are constantly being asked to develop equipment that combines other products and requiring additional functionality over and beyond cooling of beverages. Based on the type of combinations, this type of equipment is generally considered to be outside the scope of ASHRAE32.1-2010 test procedure. NAMA anticipates an increasing number of customer requests for such components.

NAMA recommends an alternate energy specification for such combinations. RBVM's that incorporates off the shelf components and contribute to increased energy use but also have a parallel DOE requirements for energy consumption – such as LCD or LED monitors, commercial computer systems etc. – should be evaluated for energy use based on discrete, individual values for RBVM plus additional allowance for each such components based on applicable DOE standards.

Item 3-15

DOE requests comment on low-power modes. What types of low-power modes are currently used in the BVM market? Are there other types of energy management systems about which DOE should be aware that are applicable to beverage vending machines?

- **ANSWER:**

Please refer to comment for Item 1-5. The DOE already requires vending equipment to be equipped with three low power modes. These are the most prevalent and currently available on all machines covered under this rulemaking.

Item 3-16

DOE requests comment on whether transparent-front machines could be designed with zone cooling.

- **ANSWER:**

NAMA believes that it is unlikely that transparent-front machines could be designed with zone cooling. However, future state of the industry could bring new designs and potential changes to the equipment offered by manufacturers.

Item 3-17

DOE seeks comment on how to select baseline efficiency levels for equipment classes without a previous energy conservation standard (e.g., combination machines).

- **ANSWER:**

NAMA recommends the DOE look to other existing rulemaking bodies such as the

California Energy Commission and the Natural Resources of Canada which currently have standards that cover this equipment.

Item 3-18

What machine sizes and capacities (cubic feet, vendible capacity) should be used as analysis points for each equipment class?

- **ANSWER:**
NAMA recommends that the DOE review the list of currently approved equipment.

Item 3-19

DOE seeks information on what particular components and features characterize the baseline model in each equipment class (materials, dimensions, insulation, refrigerant type, compressors, evaporators, condensers, expansion devices, fans, motors, anti-condensate devices and controls, defrost mechanisms and controls, lighting, etc.).

- **ANSWER:**
Many manufacturers do not currently build multiple versions of the same can and bottle beverage machines that would be different from a baseline machine design.

Energy use evaluation (MDEC) of each model should be based on refrigerated volumetric capacity to cool product/item and vend capacity of 'industry' standard size beverage cans.

Item 4-1

DOE welcomes comments on how the above four screening criteria might apply to any additional technology option(s) that an interested party recommends to DOE.

- **ANSWER:**
In addition to the listed screening criteria, DOE should consider technologies that have other overall benefits in accordance with national policies but may not necessarily result in reduced energy use. RV recommends that DOE develop cost benefit criteria that fairly compares the energy penalty against other benefits accrued. For example, the use of carbon dioxide (CO₂) as a refrigerant allows manufacturer's to reduce both ODP and GHG and parallels EPA's stated goal of replacing fluorocarbon based refrigerants such as HFC's classified as Ozone Depleting Substances (ODS) in the long term - reference "Benefits of Addressing HFCs under the Montreal Protocol by Drusilla Hufford (USEPA, Stratospheric Protection Division) et al." at the ASHRAE/NIST Refrigerants Conference, Oct. 29-30, 2012.

Item 4-2

DOE welcomes comments on the applicability of the four screening criteria to the technologies listed in section 3.4.

- **ANSWER:**

NAMA has no comment on the applicability of the four technology screening criteria in Section 3.4.

Item 5-1

Within each equipment class, for energy consumption levels below the current standards' baseline, DOE seeks information on daily energy consumption and on incremental manufacturing costs and components (differentiation in components from the baseline, material costs, labor costs, factory overhead costs (excluding depreciation), building conversion capital expenditures, tooling/equipment conversion capital expenditures, research and development (R&D) expenses, marketing expenses, etc.).

- **ANSWER:**

NAMA is unable to comment on the daily energy consumption and manufacturing costs related to expenditures, equipment conversion, R&D expenses, and marketing expenses, as that is proprietary manufacturer information.

Item 5-2

DOE is also interested in any equipment test data that stakeholders can provide (including equipment parameters, test results, etc., and, in the case that a test procedure other than the DOE test procedure was used, the test procedures used and rating conditions). Test data for the baseline model in each equipment class is particularly important.

- **ANSWER:**

NAMA currently does not have equipment test data information to provide.

Item 5-3

DOE requests feedback on the use of the design-option approach to determining the relationship between manufacturer selling price and energy efficiency for beverage vending machines.

- **ANSWER:**
NAMA is unable to provide feedback on the use of the design-option approach to determining the relationship between manufacturer selling price and energy efficiency for BVMs as that is proprietary manufacturer information.

Item 5-4

DOE seeks comment on the markup approach proposed for developing estimates of manufacturer selling prices.

- **ANSWER:**
NAMA is unable to comment on the markup approach for developing estimates for selling prices as that is proprietary manufacturer information.

Item 5-5

Are there proprietary designs that DOE should consider for any of the equipment under consideration by this rulemaking? If so, how should DOE acquire the cost data necessary for evaluating these designs?

- **ANSWER:**
NAMA is unaware of any proprietary designs that would affect this rulemaking.

Item 5-6

Are there alternative design paths that can achieve the same level of max-tech energy use (energy efficiency) as those using proprietary designs?

- **ANSWER:**
NAMA is unaware of any proprietary designs that would affect this rulemaking.

Item 5-7

DOE requests feedback on representative sizes. Are the representative sizes used for the 2009 BVM final rule adequate, and should they be retained or modified?

- **ANSWER:**
NAMA believes that the representative sizes used for the 2009 BVM rulemaking remain adequate.

Item 5-8

If DOE were to analyze a combination equipment class, perishables (including or in addition to beverages) equipment class, or other new equipment classes, what should be the relevant representative sizes for that class?

- **ANSWER:**
NAMA is unaware of a representative size for a combination equipment class because perishable food machines are rarely mixed with beverages.

Item 5-9

DOE requests information on the use of alternative refrigerants in beverage vending machines, including shipment, cost, and energy consumption information.

- **ANSWER:**
Please refer to response to Item 4-1 above. Continuing our comment to 4-1 and based on currently available technology and components for 'natural refrigerants' such as CO₂, we recommend that the DOE allow a 15% to 20% relief (specifically permit 15% to 20% higher MDEC) for RBVMs with CO₂ as refrigerant relative to RBVMs with fluorocarbon based refrigerants such as HFC134a.

The industry has been pushing for the use of CO₂ (R744) and Hydrocarbon refrigerants (R290). These are in limited use but expected to grow in the future. NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to the future use of alternate refrigerants.

Item 5-10

Are there additional regulatory issues that DOE should consider in its analysis of beverage vending machines? Do the issues discussed in this section affect shipments, cost, or energy efficiency?

- **ANSWER:**
NAMA recommends that the DOE review the EPA's approved refrigerants list and potential future rulemaking for this list. The potential use of alternates refrigerants covered by the EPA could provide an impact to the design and manufacture of this equipment.

For RBVM, the DOE should also consider:

1. *US-EPA SNAP regulations for allowable refrigerants and technology available to achieve targeted MDEC's; and*
2. *US-Energy Star program – Based on the unique market situation and the industry dynamics for this product the reality is that manufacturers are also required to meet Energy Star standards for almost 100% of their product line. While the DOE has indicated that it does not take Energy Star requirements into consideration since it is a 'voluntary' program, we believe that this is a material factor for the DOE to consider. Customers' and their customers' expectations are that this*

equipment will meet Energy Star requirements. In most cases we have a three-step market: BVM manufacturer → beverage bottler/distributor → end-user customer.

Item 6-1

How should DOE consider energy use in “heating mode” for outdoor machines in cold climates?

- **ANSWER:**

User demand for this feature is very limited and this feature is offered by some manufacturers as an accessory. This mode is used in limited geographic areas for only a part of the year. Therefore the total annual power used for this feature has limited impact on annual power used by all RBVMs in the US. Accordingly, NAMA recommends that DOE not evaluate this feature for RBVMs.

Item 7-1

DOE requests information on the distribution channels described above for the beverage vending machines covered under this rulemaking. DOE also seeks information on other major distribution channels that DOE should be considering for markups analysis. DOE also requests information on the relative fractions of shipments expected for each channel.

- **ANSWER:**

NAMA is unable to comment on the potential channels of distribution of can and bottle beverage vending machines or distribution channels for markups analysis as that is proprietary manufacturer information.

Item 7-2

DOE requests information on how the overall markups for the beverage vending machines covered under this rulemaking may vary for each channel.

- **ANSWER:**

NAMA is unable to provide information on how the overall markups for the BVMs covered under this rulemaking may vary for each channel as that is proprietary manufacturer information.

Item 7-3

DOE requests feedback on its proposal to use baseline and incremental markups.

- **ANSWER:**

NAMA is unable to provide feedback on the DOE’s proposal to use baseline and

incremental markups.

Item 7-4

DOE requests comment on sources of relevant data that could be used to calculate markups for each distribution channel.

- **ANSWER:**

NAMA recommends that the DOE consult with the BVM manufacturers directly to request relevant data used to calculate markups for distribution channels.

Item 8-1

DOE seeks comment on the proposed approaches for estimating current and forecasted energy prices.

- **ANSWER:**

NAMA is unable to provide comments on proposed approaches for estimating current and forecasted energy prices as that is proprietary manufacturer information.

Item 8-2

DOE seeks comment on the proposed approaches for estimating discount rates for customers using the equipment covered under this rulemaking.

- **ANSWER:**

NAMA is unable to provide comments on the proposed approaches for estimating discount rates for customers using the equipment covered under this rulemaking as that is proprietary manufacturer information.

Item 8-3

DOE recognizes that a large fraction of the customers of beverage vending machines are beverage bottlers. Which commercial sectors besides the bottlers should be considered in the evaluation of discount rates? In addition, do 46 stakeholders believe that government direct purchases of this equipment are large enough to require that they be included in the evaluation of discount rates?

- **ANSWER:**

The DOE should consider distributors of vending equipment, as well as vending operators (also known as FLOs or “full line operators”) for evaluation of discount rates because RBVMs are typically sold to beverage bottlers, distributors of vending equipment, and FLOs. Distributors may sell directly to FLOs as well as directly to non-commercial vending machine users.

NAMA has no comment on whether government direct purchases of the equipment should be included as part of the evaluation.

Item 8-4

DOE seeks feedback on what fraction of the installation, maintenance, and repairs involve efficiency improvements and what are the typical practices during the life cycle of an originally manufactured beverage vending machine (e.g., change lamps but not the compressor).

- **ANSWER:**

NAMA recommends that the DOE request feedback from the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to assist in compiling information related to the installation, maintenance, and repair of originally manufactured BVMS.

Item 8-5

What is a typical time period between the sale of a new BVM unit and the first maintenance or repairs? What are the typical cycles of maintenance and repairs?

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to assist in compiling information related to the maintenance and repair of this equipment.

Item 8-6

DOE seeks feedback on whether (and how) routine maintenance, repair, and installation costs will change for more-efficient equipment.

- **ANSWER:**

From an industry perspective, many third parties are selling LED lighting kits for existing base of RBVMs with the intent of reducing service costs of replacing fluorescent lamps; however it also reduces MDEC due to higher efficiencies of LED lamps. In addition, third parties sell timers and related devices that reduce overall energy consumption in low- or non-use periods by turning off the RBVM.

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) for additional information related to the installation, maintenance, and repair costs of this equipment.

Item 8-7

DOE seeks feedback on appropriate methodologies for assessing changes to maintenance, repair, and installation costs.

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to the methodologies regarding installation, maintenance, and repair of this equipment.

Item 8-8

DOE seeks feedback on appropriate equipment lifetimes for the beverage vending machines covered under this rulemaking.

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to the lifetimes for BVM equipment under this rulemaking.

Item 8-9

DOE seeks comment on whether energy conservation standards will have an impact on lifetimes of beverage vending machines.

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to whether energy conservation standards will have an impact on lifetimes of BVM equipment.

Item 8-10

Is there a suitable inventory model that could be used to estimate the fraction of new versus rebuilt/refurbished machines in the market? If no inventory model exists, what is the impact of refurbishment on the equipment lifetime? DOE also seeks feedback on the number of refurbishment cycles in the typical lifetime of the beverage vending machines. DOE also seeks information on the effect of refurbishments on equipment utility and energy consumption. In a typical refurbishment, for example, are features added to the beverage vending machine that affect its utility and/or are changes made that affect the energy consumption of the equipment?

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment

(i.e., The Coca Cola Company and PepsiCo) to help compile information regarding new vs. refurbished BVM equipment.

Item 9-1

DOE requests data on, sources of data related to, or any information pertaining to historical shipments and the market shares of the different efficiency levels offered in each equipment class.

- **ANSWER:**
NAMA is unable to provide information pertaining to historical shipments and markets shares offered in each equipment class as that is proprietary manufacturer information.

Item 9-2

DOE seeks information on representative saturation rates for each equipment class covered under this rulemaking, as well as industry-trend data regarding relative growth in each equipment class.

- **ANSWER:**
NAMA is unable to provide information pertaining to the representative saturation rates for equipment class covered under this rulemaking as well as industry-trend data regarding relative growth in each equipment class.

Item 9-3

DOE seeks input on methods of projecting the markets for each equipment class and access to models or methods that could be used to estimate shipments.

- **ANSWER:**
NAMA is unable to provide input on methods of projecting the markets for each equipment class and access to models or methods that could be used to estimate shipments.

Item 9-4

DOE seeks input on likely impacts on shipments due to new or amended standards for beverage vending machines. Please comment on what the possible scenarios are and the estimated quantitative impact of each scenario on the shipments numbers.

- **ANSWER:**
NAMA is unable to provide input on likely impacts on shipments due to new or amended standards for beverage vending machines or comment on what the

possible scenarios are and the estimated quantitative impact of each scenario on the shipments numbers.

Item 10-1

DOE seeks comment on the share of the market that is met by refurbished or rebuilt machines. In particular, DOE seeks comment on the impact of refurbishment/rebuilding on the energy consumption and lifetime of the existing fleet in the absence of standards, and the impact of new standards on refurbishment kits, the subsequent cost, and performance of the stock of existing equipment.

- **ANSWER:**

NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to the share of the market that is met by refurbished or rebuilt machines. As well as information on the impact of refurbishment/rebuilding on the energy consumption and lifetime of the existing fleet in the absence of standards, and the impact of new standards on refurbishment kits, the subsequent cost, and performance of the stock of existing equipment.

Item 10-2

DOE seeks comment on its plan to develop NES spreadsheet models for estimating national impacts of amended energy conservation standards.

- **ANSWER:**

NAMA is unable to provide comment on NES spreadsheet models for estimating national impacts of amended energy conservation standards.

Item 11-1

DOE seeks input on which customer subgroups DOE should consider in the present rulemaking. Examples of possible subgroups DOE could consider appropriate for beverage vending machines are manufacturing facilities that own their own BVM units, which was the identified subgroup in the 2009 BVM final rule analysis, and site owners that pay the utilities but don't own or stock the equipment.

- **ANSWER:**

NAMA believes that all subgroups considered during the 2009 rulemaking are still appropriate and require consideration. NAMA is unaware of any new subgroups that require consideration for this rulemaking.

Item 12-1

DOE seeks comment on appropriate manufacturer subgroups, if any, that DOE should consider in the manufacturer subgroup analysis for beverage vending machines.

- **ANSWER:**

NAMA believes that all subgroups considered during the 2009 rulemaking are still appropriate and require consideration. NAMA is also are unaware of any new subgroups that require consideration for this rulemaking.

Item 12-2

DOE seeks comment on small businesses that could be impacted by amended energy conservation standards for beverage vending machines, and what those impacts might entail.

- **ANSWER:**

A significant segment of NAMA's membership could be classified as "small businesses" (based upon factors such as > \$1 million in annual sales/revenue; > 50 employees, etc.) and are represented in almost every industry category: full line vending operators, brokers, suppliers, distributors, food service, machine manufacturers, etc. Thus, small businesses in each category may be impacted by amended energy conservation standards; as such standards could increase the costs of new and/or refurbished equipment and repairs of BVMs.

Accordingly, NAMA opposes a substantive amendment to the existing standards since it will impact our small businesses members to a considerable extent – particularly the small machine manufacturers. At a minimum, all models that are offered for sale will be reevaluated for compliance to new standards and as a result they may be discontinued or not offered to customers resulting in a direct loss of sales. Additional expenses will be incurred in reengineering the design of many models followed by the expense of testing and reporting all models. Manufacturing investment may be required to implement the new design of RBVMs thus costing the company hundreds of thousands of dollars for compliance to new standards.

A major factor to consider is that a small business has fewer resources to investigate new designs and implement them into production.

NAMA suggests that the DOE also consider the market trend (for the past 5 years) that indicates a shrinking industry wide sales volume of new RBVMs. It is generally expected that the overall RBVM market will continue this decline. Additional regulatory burden in this environment creates undue hardship on small machine manufacturers and may curtail business investment, product choices to users, employment and competition. There are currently a relatively

limited number of manufacturers active in the RBVM market.

This may also affect small businesses if their customers start to demand that all their products meet the current the DOE stands. They may be forced to scrap equipment before the end of its useful life therefore reducing profitability.

Item 12-3

DOE welcomes comments on other existing or pending regulations it should consider in its examination of cumulative regulatory burden.

- **ANSWER:**

NAMA recommends that the DOE should also consider:

- *US-EPA SNAP regulations for allowable refrigerants and technology available to achieve targeted MDEC's; and*
- *US-Energy Star program – Based on the unique market situation and the industry dynamics for this product the reality is that manufacturers are also required to meet Energy Star standards for almost 100% of their product line. While the DOE has indicated that it does not take Energy Star requirements into consideration since it is a 'voluntary' program, we believe that this is a material factor for the DOE to consider. Customers' and their customers' expectations are that this equipment will meet Energy Star requirements. In most cases we have a three-step market: BVM manufacturer → beverage bottler/distributor → end-user customer.*

Item 13-1

DOE requests feedback on this approach to assessing employment impacts.

- **ANSWER:**

NAMA recommends that the DOE consider that industry employment could be negatively impacted by significant changes/amendments to energy conservation standards (especially among the industry's small business segments) due to costs associated with regulatory compliance in this regard.

Item 14-1

DOE seeks input on its proposed use of NEMS-BT to conduct the utility impact analysis.

- **ANSWER:**

NAMA is unable to provide comments on the DOE's proposed use of NEMS-BT to conduct the utility impact analysis.

Item 14-2

Should DOE consider using methods other than NEMS in the utility impact analysis?

- **ANSWER:**

NAMA is unable to provide comment as to whether the DOE should use methods other than NEMS in the utility impact analysis.

Item 15-1

DOE seeks input on its approach to conduct the emissions analysis for the equipment covered by this rulemaking.

- **ANSWER:**

NAMA believes that in addition to the listed screening criteria, DOE should consider technologies that have other overall benefits in accordance with national policies but may not necessarily result in reduced energy use. RV recommends that DOE develop cost benefit criteria that fairly compares the energy penalty against other benefits accrued. For example, the use of carbon dioxide (CO₂) as a refrigerant allows manufacturer's to reduce both ODP and GHG and parallels EPA's stated goal of replacing fluorocarbon based refrigerants such as HFC's classified as Ozone Depleting Substances (ODS) in the long term - reference "Benefits of Addressing HFCs under the Montreal Protocol by Drusilla Hufford (USEPA, Stratospheric Protection Division) et al." at the ASHRAE/NIST Refrigerants Conference, Oct. 29-30, 2012.

Based on currently available technology and components for 'natural refrigerants' such as CO₂, we recommend that the DOE allow a 15% to 20% relief (specifically permit 15% to 20% higher MDEC) for RBVMs with CO₂ as refrigerant relative to RBVMs with fluorocarbon based refrigerants such as HFC134a.

The industry has been pushing for the use of CO₂ (R744) and Hydrocarbon refrigerants (R290). These are in limited use but expected to grow in the future. NAMA recommends that the DOE reach out to the main users of the equipment (i.e., The Coca Cola Company and PepsiCo) to help compile information related to the future use of alternate refrigerants.

Item 16-1

DOE requests comments on the approach it plans to use for estimating monetary values associated with emissions reductions.

- **ANSWER:**

NAMA is unable to provide comment on the DOE's planned approach for estimating monetary values associated with emissions reductions.

Item 17-1

DOE is aware of the existing ENERGY STAR program for the beverage vending machine industry covered under this rulemaking. Are stakeholders aware of any other such programs that should be examined as optional, non-regulatory approaches?

- **ANSWER:**

NAMA recommends that the DOE research the current activities of Natural Resources of Canada, Canadian Standards Association, and the California Energy Commission.

Item 17-2

Are there specific subgroups of end-users whom DOE should consider in its review of potential adverse impacts from standards developed under this rulemaking?

- **ANSWER:**

NAMA believes that all subgroups considered during the 2009 rulemaking are still appropriate and require consideration. NAMA is unaware of any new subgroups that require consideration for this rulemaking.