



**2601 Blake Street, Suite 302  
Denver, CO 80205**

August 21, 2003

Rebecca Miller  
ICF Consulting

Dear Ms. Miller,

I have carefully reviewed the Energy Star Program Requirements for Refrigerated Beverage Vending Machines. I have several comments on the proposed specification, which I believe sets a baseline, but needs to be enhanced by a few changes.

Page 5 – Existing Machine Field Retrofits

The information in this section does not adequately address the facts that need to be reviewed before excluding the existing installed base from the Energy Star requirements:

- Nearly 4 million machines are currently in place, consuming 1.6M kWh per year of electricity. New machines are manufactured at the rate of approximately 350,000 units per year, with up to one third of these shipped overseas, leaving a minimum domestic replacement time of at least 11 years. And this assumes all existing machines will be scrapped, which has never been the case in the past. Consequently, ignoring this installed base has and will have a tremendous negative impact on real-world energy savings. An Energy Star specification that does not address the installed base will have little impact on real energy consumption for nearly a decade.
- Machines in the field are re-manufactured at several-year intervals, when they are removed from service and sent to a refurbishment center. Additionally, the machines are always being modified in the field, both to add new or upgraded features (dollar bill changes, cashless vending, new size beverage containers, upgraded electronics, etc.). So field and depot upgrades are done all the time.
- All components that are field and/or depot installed into vending machines are listed on the manufacturer's UL card. They are tested and approved by both the manufacturer and UL, so that any field upgrades must be approved and tested in advance. They can be installed at the factory, in the field, or at a depot.
- If the upgraded components installed in the field are those approved by the manufacturer, and certified to meet the EPA Energy Star specification, then the issue of when during the machine's life cycle the components are actually

installed should be irrelevant to the EPA. Whether installed in the field or at time of manufacture in no way compromises the integrity of the EPA Energy Star label. The machine meets specifications if built as required by the manufacturer as certified to meet Energy Star standards and listed by UL.

- Retrofit procedures may be outside the control of the partner, but procedures are not what certify the machine as Energy Star compliant. It is the installation of the Energy Star compliant components. And certification by the partner that a specific set of components creates an Energy Star compliant machine is all that is needed. Whether the components are installed at the factory or in the field or depot again has no impact on the end result.

In conclusion, not including the currently fielded units in the Energy Star program (given that they are always upgraded and refurbished as a standard course of business), severely limits the effectiveness and value of the Energy Star label and will not produce meaningful savings for nearly a decade.

#### Page 6 – Low Power Mode

Low Power Mode is not clearly defined. Allowing the vended product to come out of specification is in fact unacceptable to nearly all customers and suppliers. The current generation of electronic vending machines already include such a feature that is time based, but the beverage suppliers almost never use this feature as it raises product temperature and that is unacceptable. Therefore, incorporating a feature into a new specification that has been fielded for nearly 8 years and has proven to be of no use will not be meaningful. I suggest that this be removed from the specification.

#### Page 7 - Test Criteria

ASHRAE is in the process of expanding the energy test criteria to change from  $90\pm 2$  °F to  $75\pm 2$  °F. This allows the presentation of data to the public that is measurable, and used in the real world in determining the value of the Energy Star rating. Providing unrealistic data to the public will not help as it will seem to indicate that the power consumption of the machines is much higher than it actually is. Additionally, except for a very few places in the United States, the mean temperature is well below 90°F, and measuring energy savings only at this temperature may well produce machines that are more efficient at the high temperature, but in fact are no more efficient than the current machines at normal average temperatures. This will reflect negatively on the Energy Star label as real world savings that people will see may in fact be minimal. Testing energy savings in the typical applications environment is critical. Witness the dishwasher EPA Energy Star testing that was recently shown to produce very efficient machines when washing clean dishes (not real world), but poor energy savings when washing dirty dishes (real world). We are faced with the same

issue – Energy Star performance must be tested in real-world environments or the results in the real world will likely be very different than that expected based on the test environment. I strongly recommend that the test temperature be changed to  $75\pm 2$  °F.

Thank you in advance for your consideration.

Sincerely yours,

A handwritten signature in black ink, appearing to read "David J. Schanin". The signature is fluid and cursive, with the first name "David" being the most prominent.

David J. Schanin  
Chief Technical Officer

CC: Rachel Schmeltz, EPA Energy Star Product Manager