

Presentation and Discussion of Draft ENERGY STAR Specifications for Commercial Refrigeration

Date and Time: May 22, 2001, 8 - 10 am

**Place: 18th Floor Conference Room, US EPA Region 5 Offices,
77 W. Jackson St, Chicago, IL**

Agenda: See Attachment 1

Attendees: See: Attachment 2

SUMMARY

Rachel Schmeltz, EPA ENERGY STAR Product Manager, opened the meeting by thanking everyone for attending and describing the objectives of the meeting. Using the attached slides (Attachment 3), she

- described ENERGY STAR and the process for developing and supporting the label;
- recapped and reviewed the action items from the October 2000 meeting between EPA and refrigerator manufacturers held in Washington DC; and
- explained the differences between the mandatory minimum energy efficiency standards being set by the California Energy Commission (CEC) and the voluntary nature of ENERGY STAR.

Scott Shanklin, of The Cadmus Group, then presented the draft specifications and supporting data used to derive the specifications. This presentation, included in Attachment 3, covered definitions, qualifying products, test methods, graphs of the California Energy Commission (CEC) data used to select the specifications, graphical and tabular comparisons of the CEC standards and ENERGY STAR specifications, and equations for the draft specifications. Most of the discussion, summarized under Issues and Questions Raised (see below), occurred during this presentation.

Rachel Schmeltz concluded the meeting by listing the remaining steps and suggesting that the label could be launched at the National Association of Food Equipment Manufacturers (NAFEM) in September 2001. She also handed out guidelines for proper use of the ENERGY STAR label and the standard language contained in the ENERGY STAR Partnership Agreement. Finally, attendees were encouraged to send in any additional comments or suggestions by e-mail.

ISSUES AND QUESTIONS RAISED

Question/Issue: What products are included in this specification?

One attendee asked which products are included in this specification. It was agreed that this draft specification is for solid door food service refrigeration units, such as those found in restaurants and other food service establishments. The distinction between solid door units and glass door units was made at the meeting in October. It was determined at that time, that this

specification will cover only solid door units, with the intention that a similar exercise may be undertaken for glass door food service units and glass door display units at a later time.

Another participant inquired if there were any size restrictions on the units covered by this draft specification. Although most of the data in the CEC database are for units smaller than 39 cubic feet, there are some data for units as large as 85 cubic feet. Therefore, the specification is designed to cover all size units.

Issue: Consistency with National Sanitation Foundation (NSF) standards and test procedures.

NSF certifies refrigerator products for their ability to maintain food at safe temperatures. NSF test procedures do not measure energy use. Solid door refrigerators are tested with the door closed, and air temperature—not product temperature—is monitored. The NSF 7 standard requires that the air temperature for a storage (solid door) refrigerator not exceed 40°F. For display (glass door) refrigerators, NSF specifies that ASHRAE 117 be used and, further specifies that the average temperature of any test package and the integrated average of all test packages cannot exceed 41°F and that no single test package temperature can exceed 43°F. The draft ENERGY STAR test method for solid door refrigerators uses ASHRAE 117, which includes door openings and monitors product temperatures. The test criteria specify a maximum product temperature of 40°F for refrigerators. One attendee suggested that EPA should specify NSF 7 rather than ASHRAE 117, so that only one test would be required. Several other commenters disagreed stating that the two tests have different purposes (one is for food safety and the other is for energy use), that the only data for energy use on which specifications could be based are in the CEC data base which contains data collected using ASHRAE 117, and that any manufacturer wanting to sell in California would have to test products using ASHRAE 117 to comply with the new California standards. At the October 2000 meeting, manufacturers also expressed their preference for using ASHRAE 117, because the door openings included in the test better reflected actual operation than a closed-door test.

Issue: Definitions and Qualifying Products

One attendee suggested that the temperature ranges be removed from the definitions of refrigerators and freezers, because the units are sometimes operated outside those ranges. Another suggested that the temperatures remain in the definitions to distinguish refrigerators from freezers. A suggestion was made that the temperatures used in the product definitions be clearly specified as product or air temperatures. This comment was followed by a discussion of which NSF standard to follow (e.g., 40°F for storage refrigerators or 41°F for closed display refrigerators). One attendee noted that soft ice cream freezers operate at higher temperatures than conventional freezers. A suggestion was made to replace “one to three solid doors” in the descriptions of the qualifying products with “one or more doors” to accommodate units with four or more doors. One attendee noted that two different types of refrigerator-freezers are sold: units with separate compressors for the refrigerator and freezer compartments and units that run off one compressor. For the units with separate compressors, the suggestion was made that each side be tested independently.

Issue: Temperature specifications for use with ASHRAE 117.

Several attendees suggested that initial product temperature be defined as the integrated average temperature across all test packages to be consistent with ASHRAE 117. Michael Martin indicated that CEC had just last week made this change. Comments on the final product temperature included using the average integrated temperature only, keeping the definition as is to be consistent with NSF safety standards, and changing the specification to 41°F or 43°F to agree with the NSF display case maximum product temperature. EPA noted that the test procedures are designed to be consistent with the CEC procedures so manufacturers would only have to conduct or pay for one energy use test. Two attendees suggested dropping any specification of initial or final product temperature. A third commenter suggested that only the final product temperature be specified, because maintaining the temperature below the final product temperature with such a close tolerance specified for the initial temperature may be difficult. Another commenter responded that unless these temperature were specified, tests on different units would not be comparable. It was also noted that initial and final product temperatures were specified at the request of several attendees at the October meeting.

Question/Issue: Can changes be made to the specification if more data become available?

Due to the limited data available for some product categories, meeting participants expressed the need and desire to reexamine the specification at some future time when more data on products are available. ENERGY STAR is designed so that specifications can be revisited and revised with changes in the market or, in this case, the availability of additional data. Any future revisions would be made only after discussions with stakeholders. While there was general agreement that the data on the energy consumption of solid door food service refrigeration products are sufficient for ENERGY STAR to proceed with developing a specification for these products, the representative from ARI stated that he did not believe that the existing data are sufficient.

ACTION ITEMS/SCHEDULE

Meeting participants are asked to send comments or suggested revisions to the draft spec to EPA (schmeltz.rachel@epa.gov) or the Cadmus Group (awerner@cadmusgroup.com or sshanklin@cadmusgroup.com) by June 13, 2001.

EPA/Cadmus may contact manufacturers and others directly for clarification on comments or suggestions.

EPA/Cadmus will examine NSF 7, ASHRAE 117, and the latest draft language from the CEC.

EPA will incorporate comments as appropriate and send a revised draft to all interested parties by July 2, 2001.

ATTACHMENT 1

**ENERGY STAR[®] for Commercial Solid Door
Refrigerators and Freezers
May 22, 2001 - 8AM
U.S. EPA Region 5 Office, Chicago, Illinois**

AGENDA

- I. Introductions
- II. Recap of “What is ENERGY STAR?”
 - S Results of meeting in October, 2000
 - S Difference between ENERGY STAR and what’s happening in California
- III. Review of Draft Eligibility Criteria
 - S Role within ENERGY STAR Partnership Agreement
 - S Definitions and Qualifying Products
 - S Test Criteria
 - S Specifications
 - S Effective Date
- IV. Future Timeline/Next Steps
- V. Comments/Questions

ATTACHMENT 2

REACH-IN MEETING CHICAGO MAY 22, 2001

MEETING PARTICIPANTS

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