

ENERGY STAR Programmable Thermostat Industry Meeting
Monday, October 27, 2003
Portland, Oregon

In conjunction with the ENERGY STAR HVAC Partner Meeting, EPA hosted a separate meeting with manufacturers and other interested stakeholders to discuss the latest Draft 1 version of the revised programmable thermostat specification. More than 25 stakeholders attended the meeting. A final attendee list and all meeting presentations will be available for download from the ENERGY STAR Web site at www.energystar.gov/productdevelopment. A summary of the meeting discussions is provided below.

EPA Presentation on ENERGY STAR Marketing Efforts

Wendy Reed, EPA, gave a short presentation on current ENERGY STAR marketing efforts including an ENERGY STAR update, plans for Cool Change 2004, and examples of how partners have leveraged ENERGY STAR in their marketing plans.

EPA Presentation on the ENERGY STAR Partnership Agreement

Andrew Fanara, EPA, presented the components of the Partnership Agreement, including: labeling requirements; annual submittal of shipment data; and elimination of grandfathering.

Specification Discussion

Andrew Fanara presented specific questions to the group on the proposed Draft 1 specification, which was provided to all stakeholders prior to the meeting. These discussions are summarized below:

➤ *Why ENERGY STAR?*

- **Manufacturer:** Is the goal of the new ENERGY STAR guidelines to raise the standards, so all manufacturers meet them; or is it only so the best of the best would meet?
- **EPA Response:** EPA believes that programmable thermostats help consumers save money and energy. We would like to see every household have a programmable thermostat. However, ENERGY STAR qualified products usually represent approximately 25% of the top energy performers in the market. As manufacturers embrace ENERGY STAR, the number of qualified products grows. When this happens, EPA may revise the specification to make it more stringent. ENERGY STAR is not written so that all products meet the specification. It is a tool for those who want to use it to differentiate their products in the marketplace.
- **Manufacturer:** If you make the product too expensive, there may be a great disparity between a \$10 non-programmable thermostat and an ENERGY STAR qualified programmable thermostat. Some people may not bridge the price gap.

- EPA Response: EPA creates product specifications that allow the consumer to save money and energy without sacrificing comfort. It is possible that EPA could consider a different tiered specification for \$10 thermostats vs. \$150 thermostats. This concept is reflected in other ENERGY STAR specifications, such as the one for copiers.

The programmable thermostat specification is unique in that the specification does not address energy consumption of the actual thermostat. Rather, it addresses the potential savings that the thermostat can garner from the HVAC equipment that it controls.

- Manufacturer: The unique thing about programmable thermostats is that it causes other machines to be more efficient. This is applicable to both the new two-stage equipment as well as the old 8 SEER equipment. The older the system is the more it helps the homeowner in saving energy and money.
- EPA: EPA has both short-term and long-term goals in creating a new ENERGY STAR specification for programmable thermostats. The new specification (Tier I) should reward the thermostat that was designed in a forward-thinking manner. The longer-term goals address features that are not currently in the marketplace. The goal is to address ease-of-use issues so that the consumer more readily realize the energy and money savings per manufacturers' statements. For example, the hold button is currently hindering energy-efficiency and energy/money savings that could be realized. In addition, it has been difficult to determine what features and functions will solve consumer ease-of-use issues, since every manufacturer has a different opinion.
- Manufacturer: How will we address features that have a patent?
- EPA Response: One of the guiding principles of ENERGY STAR is to ensure that proprietary features and functions are not written into the specification so that one manufacturer is not given an advantage over all others.
- Manufacturer: What is the goal here – to save energy or maintain comfort?
- EPA Response: Both. ENERGY STAR strives to save money for the homeowner without sacrificing comfort.
- EPA: From the discussion it seems that manufacturers are happy with the status quo. EPA can do one of two things with this specification. The first is to attempt to write a new specification. The second is to get rid of the specification and the ENERGY STAR label for programmable thermostats altogether. EPA is willing to do the latter if it does not make sense to have the ENERGY STAR for thermostats.

➤ *Default Program*

- Manufacturer: No manufacturer can predict what the homeowner wants. Men usually select the thermostat and women do the adjustment. Homeowners are frustrated by not being able to change the daylight savings time and by the burned in programs—we need more reasonable programs.
- EPA Response: EPA believes that the programmable thermostat needs to have a default program; it is the core feature for ENERGY STAR.

- Manufacturer: What does EPA think about having a program that moves the whole program up and down, when the homeowner changes the thermostat?
- EPA Response: EPA could take a new approach with different and new features and settings. We need more programmable thermostats that are going to actually save energy and money for the homeowner.

- Manufacturer: If we are going to pursue a default program, there may be some data that my organization can share on homeowners' scheduled wake up and sleep times.

- EPA: We are open to including a default program, having a multiple setting range, and possibly a hybrid of all of these ideas.

- Manufacturer: Controlling temperature and efficiency is one thing, but looking at comfort and how that's achieved is much different. Comfort may be counterproductive to what you are trying to achieve with a programmable thermostat.
- EPA Response: EPA will not define comfort through the specification. However, the ideal is energy savings settings and improved comfort via programmable thermostats.

➤ *Permanent Instructions*

- Manufacturer: There are many items in the specification that could be generalized to give manufacturers flexibility in achieving these requirements.
- EPA Response: EPA would like to hear feedback from manufacturers identifying and providing other ways to address these areas.

- Manufacturer: With these permanent expanded instructions, EPA is dictating that manufacturers must have a door. Manufacturers already have instructions to educate the consumer. Educational materials and information provide on the Web site is the way to do this. EPA should let the market handle it; it is not EPA's place to tell me how to design my product.

- ICF: Is it possible to post simple instructions on your Web site, rather than having consumers download the whole user manual? This may be a similar answer to the permanent expanded instructions.
 - Manufacturer Response: Yes, this or something similar would be possible (e.g., programming guides, etc.)

- *Backlighting*
 - Manufacturer: Backlighting is user-friendly in some situations. However, rather than specify methods, EPA should state its goal, which I am guessing is making the product easier to see. This could be addressed by saying that a person with 20/20 eyesight should be able to see the thermostat from x inches or x feet.

- *Hold Button*
 - Manufacturer: Let the market decide and let the manufacturers determine what is going to sell their products. EPA should not dictate the long vs. short-term hold.
 - Manufacturer: Without the hold button, there will be an increase in consumers' complaints. Consumers will complain to contractors, who in turn, will not install ENERGY STAR qualified programmable thermostats.
 - Manufacturer: In the retail market, consumers choose programmable thermostats to set back. However, I don't believe taking away the hold button is going to change consumer behavior.
 - Manufacturer: EPA could develop some required language that manufacturers have to use such as "EPA recommends not using the hold button. You will not realize the stated energy or money savings if you use the hold button."
 - Utility: It is difficult to incent something like programmable thermostats, since we don't know about the associated savings and the savings are not guaranteed because of the hold button.
 - Manufacturer: Honestly there have been some changes in my life that required I change my program and with my wife expecting, I will probably put the button in the hold mode. However, after 2-3 years, I may go back to the program. This is typical for homeowners who are going through different things in their life depending on their schedules and needs. Without the hold button, there isn't this constant choice.
 - Manufacturer: Homeowners will just find a way around the hold button. They will reprogram the thermostat so it is a constant 68°F.

- *Intelligent Recovery*
 - Manufacturer: Is there a patent out on this technology? This used to be the case. A patent means the technology wouldn't be available to all manufacturers.
 - Manufacturer: We no longer have a patent on this technology. It has expired. We believe that this technology is better than guessing a start

time. We feel that this technology should be required for heat pumps. Adaptive makes a lot of sense – it takes away the guesswork.

- Manufacturer: This is good, better, best. ENERGY STAR cannot be and cannot have everything. This is a sophisticated feature and not all consumers will understand it.
 - Manufacturer: Current ENERGY STAR requirements do not differentiate the higher-end products. Why should consumers buy the higher-end product, if there are cheaper ENERGY STAR qualified versions available?
- *Testing Criteria And Accuracy*
- EPA: Would manufacturers be open to third party testing for Tier II? What should EPA do about testing currently?
 - Manufacturer Response: Manufacturers should continue to test to NEMA-DC3 and submit their data.

 - EPA: Should EPA require third party testing?
 - Manufacturer Response: This implies that EPA does not believe what manufacturers are reporting.
 - EPA: We just want to make sure that NEMA-DC3 is an applicable testing criteria and that the forms will be enough so EPA does not have to mediate manufacturers' claims.
 - Manufacturer Response: NEMA-DC3 cycles the thermostat too often. It tests how thermostats relatively compare, but does not relate to the +/- 2 degrees that the specification requires.
 - Manufacturer Response: NEMA-DC3 is used in the industry and manufacturers should use NEMA-DC3 and submit results to EPA; this should be sufficient.

 - Manufacturer: In addition to appropriate testing criteria, we also have to look at the effect that these controls have on our equipment and ramp up times. This is important for product life and energy savings to the consumer.

Next Steps

- EPA would like to receive written feedback on the Draft 1 specification by **December 5, 2003**.
- Once comments are received, EPA and/or ICF Consulting will follow up with manufacturers on their written comments for any needed clarification.
- EPA will draft a Draft 2 Programmable Thermostat specification for another stakeholder comment period.
- EPA would also be interested in conducting conference calls with interested parties to review their comments, individually. If you are interested in this opportunity please contact Gwen Duff at ICF Consulting (see contact information below).

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