

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
AIR AND RADIATION

March 31, 2010

Dear Climate Control Manufacturer or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the attached Draft 1 Version 1.0 ENERGY STAR<sup>®</sup> Residential Climate Controls specification. Stakeholders are encouraged to submit comments on this proposal to EPA no later than **April 30, 2010**.

In developing this Climate Control specification, EPA's goal is to guide consumers to products that are superior in their usability and are effective tools for making homes comfortable and monitoring and controlling home energy use. These devices will have the ability to communicate with, and inform, the consumer positioning him/her well in a marketplace that will likely call on consumers to take greater control of energy use in their homes. EPA understands that while products that meet these proposed requirements are available in the market now, energy saving and communicating technologies that are already in active use in other electronics will enable many more Climate Control products to qualify for ENERGY STAR under this specification.

While preparing this Draft 1 document, EPA considered stakeholder comments received on the previously released Draft 1 Version 2.0 Programmable Thermostat specification as well as additional research and subsequent industry discussions. Many of the requirements proposed in the programmable thermostat specification are also relevant to Climate Controls and are included in this Draft 1 Version 1.0 Residential Climate Controls specification. To aid in stakeholder review, new language is identified by **red font** and supported by note boxes that provide background and EPA's justification for proposing the new requirements.

Some of the key requirements proposed in this Draft 1 Version 1.0 specification include:

- Section 1: Definitions have been restructured to group similar terms. New definitions are also proposed for Communicating Climate Control, Energy Management System, Energy System Interface and Time of Use.
- Climate Controls intended for commercial installation in the workplace are defined and explicitly *excluded* from ENERGY STAR eligibility in Section 2: Qualifying Products.
- ENERGY STAR qualified products must either be (1) a Communicating Climate Control or be (2) field upgradeable to a Communicating Climate Control by installation of a communication module.

- EPA regards usability as a critical determinant of the likelihood that Climate Controls will in fact save energy for consumers. Therefore, Residential Climate Controls will be required to comply with usability requirements. To balance concerns about flexibility of implementation with testing burden, EPA envisions two paths to demonstrate compliance: (1) meeting prescriptive usability requirements or (2) passing a performance based usability test. As outlined in the Draft 1 Version 1.0 Residential Climate Control specification, the usability test will consist of a user panel test comparing the product's performance to that of a standardized basic device. A complete draft of the usability test procedure will be circulated for stakeholder review and comment in July 2010.

Specific usability requirements in this Draft 1 include:

- Products capable of controlling Heat Pumps shall include a standardized visual indicator labeled "back up heat" that appears whenever auxiliary heat is activated.
  - Controls shall incorporate green, yellow and red LEDs – or an equivalent implementation using the same colors – to indicate current energy price tier.
- New technical requirements are proposed in Section 3 including:
    - Controls must have access to outdoor temperature data.
    - Controls must display humidity and be capable of humidity control when coupled with suitable HVAC equipment.
    - The night period cool setpoint has been relaxed to 78°F, in response to stakeholder comments that the previous requirement was too severe and contributed to limited adoption of default schedule parameters.
  - New communications requirements are proposed in Section 3 including:
    - A Software Development Kit, or Interface Control Document, as appropriate, shall be available to 3<sup>rd</sup> party developers to enable open access to the product's full range of communication and remote control capabilities.
    - Capability for an authorized device or software application to: (1) retrieve thermostat settings and data points on a periodic basis and (2) make near-real time setting changes to thermostat settings at any point of time (list proposed by EPA).
  - New ease of installation requirements are proposed in Section 3 including:
    - Installation instructions must utilize graphics and text to guide the installer through installation and configuration of the control.
    - Line Voltage Climate Controls shall be marked to identify the Line, Load and Earth terminals. Low Voltage Climate Controls that utilize wired or wireless digital data interfaces between the Climate Control and the controlled HVAC equipment are exempt from this requirement.
    - The typical battery life requirement has been revised from 18 to 12 months.
  - The proposed effective date for the Version 1.0 Residential Climate Controls specification is October 1, 2010.

Additional comments are addressed in the Draft 1 Version 2.0 Programmable Thermostat Comment Response document and will be available for review on the ENERGY STAR Web site at [www.energystar.gov/newspeccs](http://www.energystar.gov/newspeccs) (follow the link for “Climate Controls”).

### **Comment Submittal**

As with all ENERGY STAR specification development and revision efforts, EPA offers a transparent, open, and inclusive process with the intention of creating a high quality, industry supported specification. As EPA moves forward with developing the ENERGY STAR Residential Climate Control specification, the exchange of ideas and information between EPA, industry, and other interested parties is critical to developing a specification that is meaningful in the marketplace and contributes to further reductions of CO<sub>2</sub> emissions.

As such, stakeholders are strongly encouraged to review and provide input on the attached Draft 1 specification and send written comments to [ClimateControls@energystar.gov](mailto:ClimateControls@energystar.gov) by **April 30, 2010**. All comments will be posted to the ENERGY STAR Residential Climate Controls specification development Web site unless the submitter requests confidentiality.

### **Save the Date: Stakeholder Conference Call**

EPA will host a stakeholder conference call on Monday, April 19, 2010 to discuss the Draft 1 Version 1.0 Residential Climate Control specification. More information on this call will be distributed to stakeholders within the next week.

Please also note that ENERGY STAR will be hosting a series of discussions about enhanced testing requirements for all ENERGY STAR products. These requirements will be incorporated into the Version 1.0 Residential Climate Control specification before the Final document is released. You are encouraged to participate in these broad discussions, as well as discussions specific to Climate Controls. More information on upcoming meetings will be posted on the ENERGY STAR Web site at [www.energystar.gov/mou](http://www.energystar.gov/mou).

Thank you for taking the time to review this Draft 1 specification. If you have any questions regarding EPA’s proposal, please feel free to contact me at [daken.abigail@epa.gov](mailto:daken.abigail@epa.gov) and 202-343-9375, or Doug Frazee, ICF International, at [dfraze@icfi.com](mailto:dfraze@icfi.com) and 410-279-1093.

Sincerely,



Abigail Daken

U.S. Environmental Protection Agency  
Climate Protection Partnerships Division  
ENERGY STAR Program