

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



OFFICE OF
AIR AND RADIATION

July 1, 2010

Dear Climate Control Manufacturer or Other Interested Party:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the attached Draft 2 ENERGY STAR[®] Version 1.0 Residential Climate Controls specification. Stakeholders are encouraged to submit comments on this proposal to EPA no later than **July 30, 2010**.

In this draft, EPA maintains its focus on usability and communication, key features that will enable consumers to save energy and keep their homes comfortable. Usability enhancements will make it easier for consumers to realize the promise of Climate Control schedules, with benefits for themselves and for the environment. Climate Control communications capability is addressed in this specification in order to enable consumer value, whether through remote user access or integration into utility demand response programs. As Smart Grad deployments increase across the country, EPA's intent is for ENERGY STAR to serve the consumer through increased awareness of energy use and cost, display of real time information from utilities and access to tools to better manage and reduce energy consumption. EPA will be guided by the same interests as we consider adding similar communication requirements to other products, including refrigerators, clothes washers, dishwashers and hot water heaters.

The attached Draft 2 document addresses feedback received on the previous Draft 1 proposal. The following key changes were made to the previous Draft 1 version:

- EPA has removed the requirement to use open standards for communication. EPA believes that interoperable communications are a key to consumer value. However, with entrants into Climate Controls coming from several industries, it has become clear that requiring an open standard at this time is not the most effective way to encourage interoperability through the Climate Controls specification. The requirement for interface documentation or software development kits will provide interoperability while expanding consumer options.
- The Draft 2 specification adds a Tier 2, effective June 1, 2012, which includes conformance to the recommendations of the NIST Smart Grid Interoperability Standards Project. EPA is tracking the NIST efforts and will update stakeholders at key milestones of the NIST project, as they relate to this specification.
- Tier 2 requirements also include bi-directional digital communication between the Climate Control and the controlled HVAC equipment. Benefits to the consumer include equipment auto-configuration for optimal control and self-diagnostics with convenient reporting of maintenance alerts. These systems may optionally communicate alerts directly to HVAC service professionals. Quality installation and maintenance is critical to maintaining rated energy efficiency of HVAC equipment, and EPA sees this capability as a key enabler. EPA expects to include corresponding requirements in upcoming specification revisions for HVAC equipment. EPA favors a single,

preferably open, standard for these communication links as well, which will best serve consumer interest.

- Climate Controls must be upgradeable to support communications external to the HVAC system, but may qualify *before* additional communications modules (if needed) are actually available.
- Climate Controls must include 7-day programmability, but separate 5-2 day and 5/1/1 day program modes are now optional.
- Draft 2 allows for increased flexibility in product design while ensuring that EPA's goal of improving usability is met. We maintain two paths to meet usability requirements, an entirely prescriptive path and one with a performance based test. Core prescriptive usability requirements (which devices using both paths must meet) have been reduced, while those applying only to the entirely prescriptive path have increased. Where possible, prescriptive requirements have been reworded to focus on critical aspects of usability while allowing manufacturers more flexibility in implementation. We anticipate more information on the performance based test in August.
- Noting that date and time are normally set during installation and in response to stakeholder comments, the requirement that the Climate Control automatically set date and time has been removed.
- Required humidity measurement accuracy has been relaxed from 3% to 5% in response to stakeholder concerns regarding high cost differential to achieve 3% accuracy.
- In response to stakeholder concerns that disabling communications circuits in order to measure power consumption would be problematic, EPA has separated the power consumption limit requirement into two categories: Communicating Climate Controls and Non-Communicating Climate Controls, each with their own limits and methods of measurement. Whenever communication modules become available, the control including communication module must meet the Communicating Climate Controls limit.
- A November 1, 2010 effective date is now proposed to allow EPA and stakeholders additional time to develop and test the usability metric and associated test procedure.

EPA addresses these and other comments in noteboxes found throughout the Draft 2 specification. Modifications to the previous Draft 1 text are noted in **red** font so that reviewers can quickly identify proposed changes.

Draft Usability Test Procedure and Metric

In August 2010, EPA will release a draft usability metric that will define test requirements for Climate Controls evaluated by performance-based usability testing. EPA will host a webinar following release of the draft metric to provide stakeholders with an opportunity to ask questions and contribute to the development process.

Save the Date: Stakeholder Conference Call

Similar to the Draft 1 review cycle, EPA will host a stakeholder webinar on Wednesday July 14, 2010 from 12 - 2 p.m. EDT to discuss the Draft 2 Version 1.0 ENERGY STAR[®] Residential Climate Controls specification. If you would like to participate in this discussion, please RSVP to ClimateControls@energystar.gov by COB Monday, July 12th, 2010. Conference call and log-in information will be provided to attendees prior to the meeting.

Comment Submittal

Stakeholder input is an important part of this ENERGY STAR specification development process. All interested parties are encouraged to submit comments on the Draft 2 specification no later than July 30, 2010 to ClimateControls@energystar.gov. When addressing specific text within the document, comments should include reference to the appropriate line numbers of the subject text.

Written comments will be posted to the ENERGY STAR Residential Climate Controls specification development Web site unless the submitter requests otherwise. All specification development materials can be found on the ENERGY STAR Climate Controls Web site at www.energystar.gov/newspecs.

ENERGY STAR Testing and Verification Requirements

The ENERGY STAR Enhanced Testing and Verification program is concurrently being developed by EPA. These new requirements will apply to ENERGY STAR qualified Residential Climate Controls. As such, you are strongly encouraged to review and participate in the stakeholder review and comment process. You can find more information about this initiative on the ENERGY STAR Web site at www.energystar.gov/testingandverification. EPA plans on sharing proposed specific testing and verification requirements for Residential Climate Controls with stakeholders prior to the release of the Final specification.

EPA appreciates the feedback received thus far on this draft proposal and looks forward to continuing to work with industry stakeholder to improve the ENERGY STAR Version 1.0 Residential Climate Controls specification. If you have any questions regarding EPA's proposal, please feel free to contact me at daken.abigail@epa.gov and (202) 343-9375, or Doug Frazee, ICF International, at dfrazee@icfi.com and (410) 279-1093.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Abigail Daken', written in dark ink.

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