

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



OFFICE OF  
AIR AND RADIATION

September 6, 2012

Dear ENERGY STAR<sup>®</sup> Residential Refrigerator and Freezer Manufacturers and Other Interested Parties:

The U.S. Environmental Protection Agency (EPA) is pleased to share with you the attached the Draft 3 Version 5.0 Residential Refrigerator specification for your review and input. Comments on the Draft 3 specification should be submitted via email to [appliances@energystar.gov](mailto:appliances@energystar.gov) no later than October 9, 2012.

Key changes in the Draft 3 specification include:

- **Timing.** In light of the extended timeline for completing the Version 5.0 revision and the new U.S. Department of Energy (DOE) test procedure and 2014 Federal standards for residential refrigerators, refrigerator-freezers and freezers (R/F), EPA is proposing a revised effective date of March 1, 2014, for the Version 5.0 specification. This timing avoids the need for two ENERGY STAR specification changes for residential refrigerators in the next two years and aligns with the availability of DOE's amended test procedure that manufacturers have told EPA they plan to use for new models introduced in 2014.

In finalizing the Version 5.0 specification in Fall 2012, EPA is providing supplemental advance notice to prepare for the March 1, 2014, effective date, and has timed the specification change to mitigate burden on the industry since it falls outside the peak refrigerator selling season. The implications of this date, in terms of a transition, is that a model's ENERGY STAR certification would remain valid until March 1, 2014, as long as it is certified to the current Version 4.1 specification by January 1, 2014.

While avoiding two, closely timed specification changes has clear advantages, EPA recognizes the trade-offs associated with further delay. Originally anticipated to go into effect in January 2013, this revision to the R/F specification was initiated in the face of disproportionately high ENERGY STAR availability among the most energy intensive refrigerator configurations. Overall market share of ENERGY STAR refrigerators was close to 55% percent in 2011, and continued growth is expected. Maintaining ENERGY STAR's role as an effective differentiator of highly efficient products in the market is a priority for the Agency. An effective date of March, 1 2014, addresses the need for greater differentiation during the critical, peak refrigerator buying season (summer months).

- **Energy Use Requirements.** In response to stakeholder feedback, EPA is proposing revised energy use requirements that – like the current Version 4.1 specification – are based on the current DOE product classes and express the ENERGY STAR requirements as a “percent above” the federal standard. This proposal reflects EPA's intention to deliver meaningful savings and a selection of ENERGY STAR refrigerators from various manufacturers in the configurations that consumers seek.

Specifically, EPA is proposing most classes of full-size and compact refrigerators and refrigerator-freezers use at least 10% less energy than the 2014 Federal standard to earn the ENERGY STAR, and that built-in products use at least 13% less energy than the 2014 standard. Products are to be rated using the new DOE test procedure (Appendix A).

EPA is proposing to sunset full-size freezers and compact freezers from the program in 2014, in light of the prior comments received from stakeholders and considering the stringency of the amended Federal standards for freezers.

- **Connected.** EPA recognizes that defining connectivity for home appliances is complex. With this draft EPA offers stakeholders another opportunity to help shape these requirements. The enclosed proposed connected criteria reflect a number of revisions and clarifications to the R/F connected criteria previously proposed in Draft 2. The latest proposal builds also upon a set of recommendations on the communication criteria and Connected R/F System boundaries, developed by group of appliance manufacturers and utilities.

Key changes proposed for the optional connected criteria include:

- Revised DR criteria for R/Fs that re-introduce the option of delaying ice making to provide a Delay Appliance Load (DAL) capability.
- Revised language around energy consumption reporting that provides greater flexibility.
- Revised R/F Delay Defrost criteria to apply only to products that are interconnected, eliminating the need for backup capability for the clock as well as user interface and display that allows users to set the time. Given the assumed connectivity, EPA is also proposing revised criteria with seasonal deferral period scheduling such that the product responds to both winter and summer 4-hour peak periods while only deferring defrost from one 4-hour period per 24-hour period.
- Revised language describing the Connected R/F System boundary along with a supporting diagram and revised communication criteria, based upon recommendations submitted to EPA by a group of appliance manufacturers and utilities and supplemental comments from a group of utility stakeholders.
  - Revised communication requirements allow communication outside the Connected R/F System to be enabled by any of the following: (1) built-in communication technology; (2) manufacturer-specific external communication module and/or device; and (3) An open standards-based communication port on the appliance combined with an open standards-based communications module. Irrespective of which option is used, to maintain a level playing field, EPA is specifying that connected devices must be sold with the communication module. Modules may ship with the product, be provided with the product at the time of sale or be supplied in a reasonable amount of time after the connected product is purchased.
  - At this formative stage, EPA believes it is important that these optional ENERGY STAR connected criteria preserve flexibility and options for both consumers and utilities by being able to, at a minimum, receive and respond directly to open standards-based signals from a utility or another 3<sup>rd</sup> party service provider. This both expands consumer choice and ensures there can be competition in the marketplace for providing demand response (DR) and related energy services for connected products. Further, EPA believes that there are a number of ways in which partners can deliver this flexibility. To this end, EPA is proposing a Connected R/F System, at a minimum, be capable of receiving and directly responding to open standards-based energy related commands within the consumer's home. EPA notes this does not prevent an appliance manufacturer from *also* providing alternative cloud-based solutions for DR.
  - EPA has strengthened language based on stakeholder recommendation to specify that communication outside the Connected R/F System use, for all layers, standards that are either included in the Smart Grid Interoperability Panel (SGIP) Catalogue of Standards, in the National Institute of Standards and Technology (NIST) Smart Grid framework Tables 4.1 and 4.2, and/or adopted by ANSI or another well-established international standards organization.

### Stakeholder Webinar

EPA will host a conference call on Thursday, September 20th from 10:00 am to 12 (Noon) ET to discuss the Draft 3 specification with stakeholders and address questions. To RSVP, please email [appliances@energystar.gov](mailto:appliances@energystar.gov) by Friday, September 14th.

### Anticipated Schedule

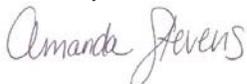
September 6, 2012	Draft 3 Version 5.0 specification published
September 20, 2012	Stakeholder webinar to discuss Draft 2 Version 5.0 Specification and Draft 1 Test Method
October 9, 2012	Comment period ends
October/November 2012	Final Draft Specification distributed and comment period
November 2012	Final Version 5.0 specification published
March 1, 2014	Version 5.0 specification effective

To track EPA's progress in revising the ENERGY STAR R/F specifications, visit the ENERGY STAR Product Development website at [www.energystar.gov/revisedspecs](http://www.energystar.gov/revisedspecs) and click on "Residential Refrigerators and Freezers."

Please direct any questions on the specification to Amanda Stevens, EPA, at [stevens.amanda@epa.gov](mailto:stevens.amanda@epa.gov) or 202-343-9106 or Ryan Fogle, D&R International, at [rfogle@drintl.com](mailto:rfogle@drintl.com) or (301) 588-9387. Please direct questions on R/F test method to Ashley Armstrong, DOE, at [Ashley.Armstrong@ee.doe.gov](mailto:Ashley.Armstrong@ee.doe.gov) or (202) 586-6590.

Thank you for taking the time to review this draft specification and your continued support of ENERGY STAR.

Sincerely,



Amanda Stevens  
Product Manager  
ENERGY STAR Appliances