



March 21, 2012

Via Email

Ms. Amanda Stevens  
Office of Air and Radiation  
United States Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

**Re: Comments of e-Radio USA on the U.S. Environmental Protection Agency (EPA) Product Specification for Residential Refrigerators and Freezers Eligibility Criteria  
Draft 2 Version 5.0**

Dear Ms. Stevens,

e-Radio USA Inc. (ERU) respectfully submits the following comments representing our view on the subject document. ERU currently participates in and supports the Consumer Electronics Association (CEA) subcommittee R7.8 working group WG1 efforts toward developing the "Modular Communication Interface for Energy Management" (MCI). The resulting specification will become CEA 2045 and will be submitted to the NIST Smart Grid Interoperability Panel (SGIP) to review for inclusion in the NIST SGIP Catalog of Standards.

In our view, the CEA 2045 solution, utilizing existing FM radio broadcasting stations and networks employing a communications system based on the FM RDS radio, is an excellent candidate for addressing the following stated objectives of ENERGY STAR "connected" Program Requirements:

1. Near term value, providing a jump-start for the industry
2. Consumer-centric options
3. Ease of use (plug and play) with little or no installation steps needed

In fulfillment of the stated objectives above, ERU's FM-based CEA 2045 solution has the following characteristics:

- a. Single standard, nationwide and,
- b. Comprehensive nationwide transmitter network currently in place capable of being fully activated within months and,
- c. Unencumbered, ubiquitous terrestrial coverage and,
- d. Does not require 'smart grid' infrastructure and,
- e. Optional connectivity to HEM and,
- f. Real-time Demand Response (DR) with little latency (a few seconds)and,
- g. Unlimited number of simultaneous listeners (no network congestion)and,
- h. End-user privacy is preserved and,
- i. Ease of installation procedure and use: just plug it in; self-install and,
- j. Interoperable and plug and play - desired by the consumer and,
- k. Flexibility of "connected" solution – desired by appliance Original Equipment Manufacturers (OEMs) and,
- l. Lowest cost overall for the consumer, appliance OEM, the utility and ISO and,
- m. Low 'phantom' power consumption and,
- n. Simplicity of the entire system.

e-Radio has specific comments to Product Specification for Residential Refrigerators and Freezers Eligibility Criteria Draft 2 Version 5.0

Section 4A : Definition

A. Home Energy Management (HEM) Functionality

A Connected refrigerator, refrigerator-freezer, or freezer shall have the following capabilities:

We submit that this statement be modified to allow optional participation. Bi-directionality requires a built-in transmitter, which can use significant amount of standby or 'phantom' power. Moreover, it will also require at least one other transceiver unit, which also consumes significant standby or 'phantom' power. Therefore, we recommend the use of bi-directional communication or HEM as optional and not mandatory for user privacy and 'phantom' power consumption reasons.

Although we understand the intent of the Energy Star program is to save energy, the Refrigerator and Freezer does have a theoretical capability to store energy and therefore act as a mass energy storage device. In our opinion employing these devices in that construct, can theoretically be an effective tool to help the integration of renewable generation. Perhaps future versions of the Energy Star specification can consider including comments and direction to engage such capability.

**Conclusions**

e-Radio USA respectfully requests that these comments be considered by the EPA in formulating the Product Specifications for Residential Refrigerators and Freezers Eligibility Criteria. We believe the CEA 2045 effort is consistent with the modular communication interface requirements and should be harmonized and tested as much as possible in conjunction with the ENERGY STAR program requirements

Please do not hesitate to contact the undersigned should you have any questions.

Respectfully submitted,



Jackson K. Wang,  
President, e-Radio USA Inc.