



January 14, 2013

Via Email

Ms. Katharine Kaplan
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 connected criteria included in Draft 3 of the ENERGY STAR Refrigerator and Freezer Version 5.0 specification.

Dear Ms. Kaplan,

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 has become CEA 2045 and has been submitted to the NIST Smart Grid Interoperability Panel (SGIP) for inclusion in the NIST SGIP Catalog of Standards.

I. Introduction

e-Radio, USA Inc. (ERU) provides a complete smart-grid communications solution. The company operates wireless communications networks and designs and manufactures FM RDS receiver modules that are inserted in a variety of smart grid devices. The companies products are focused on residential demand management programs using FM radio as the communications platform.

ERU's software solutions enable the secure delivery of data content to receiver devices via a network of existing FM radio subcarrier broadcasting signals. Content is primarily in the form of text messages and commands delivered to residential smart grid devices such as a programmable communicating thermostat (PCT), enabled smart appliances such as refrigerators and freezers, air conditioning load control switches and in-home display units.

II. Comments

In ERU's 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)

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

- a. Self installing solution, requiring minimal or no interaction required by the consumer
- b. Preserves User privacy

- c. Optional but not required connectivity to HEMS hub
- d. Real-time Demand Response (DR) with little latency (a few seconds)
- e. Can implement advanced ISO/RTO 5 minute LMP (local marginal price) directly to energy consuming appliances
- f. Unlimited number of simultaneous listeners (no network congestion) and,
- g. Single standard, nationwide coverage already in place, capable of being fully activated within months not years
- h. Interoperable and plug and play - desired by the consumer and,
- i. Flexibility of "connected" solution – desired by appliance Original Equipment Manufacturers (OEMs)
- j. Lowest cost overall for the consumer, appliance OEM, the utility and ISO
- k. Low 'phantom' power consumption
- l. Simplicity of the entire system.

e-Radio has specific comments to connected criteria included in Draft 3 of the ENERGY STAR Refrigerator and Freezer Version 5.0 specification.

- 1. Explicitly include FM broadcasting as a solution example. (see figure 1 in Section 4A)
 - a. Connected RF system might exchange data with one or more:
 - 1. Smart Meter
 - 2. HEMS/HUB/Gateway
 - 3. Internet cloud application
 - 4. Broadcast receiver device
 - 5. Other Device and application

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.

III. Conclusion

e-Radio USA respectfully requests that these comments be considered by the EPA in formulating the "Connected" Specifications for Residential Refrigerators and Freezers Specifications. We believe the FM broadcasting solution is consistent with the modular communication interface requirements and that "Broadcast receiver device" should be therefore explicitly listed as part of the possible RF solution list.

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

Respectfully submitted,


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

Ref: NAB 2009 smart grid comments to the FCC