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October 21, 2011

Ms. Katharine Kaplan
U.S. Environmental Protection Agency
Office of Air and Radiation
Washington, DC 20460

Dear Ms. Kaplan,

This letter is in reference to your September 21, 2011 letter seeking comments on the revised Draft ENERGY STAR Test Method for Telephony. The Consumer Electronics Association (CEA) is the preeminent trade association promoting growth in the \$190 billion U.S. consumer electronics industry through technology policy, standards, events, research, promotion and the fostering of business and strategic relationships. CEA represents more than 2,000 corporate members. Among their numerous lines of business, CEA members design, develop, manufacture, and distribute consumer electronics including telephony products.

Cordless telephones and combination units (cordless telephones with integrated answering machines) are currently covered by the ENERGY STAR Program Requirements for Telephony (Version 2.0). The EPA now seeks to revise the specification.

CEA supports EPA's proposal to expand the ENERGY STAR Telephony Program to include corded telephones that use external power supplies and VoIP telephones.

While very basic corded telephones draw their operating power from the telephone line, most of the corded telephones marketed for home office and small business applications offer an extended range of features and use external power supplies (EPS) as their source of power. They differ from cordless telephones only in the use of a cord between the handset and base unit instead of a radio link. Additionally there are a growing number of "hybrid" corded/cordless telephones currently available that have both a corded handset and a radio in the base unit for linking to a cordless handset in a multiple handset system. From an ENERGY STAR viewpoint, all of these products use an EPS and should be included in the Telephony Program.

CEA understands that inclusion of VoIP telephones is a major reason for current efforts to revise the testing procedures and, subsequently, the qualification requirements for the Telephony Program. CEA fully supports the addition of VoIP phones, but notes that the wording of the current draft of the testing procedures seems to be specific to VoIP phones using Session Initiation Protocol (SIP). CEA realizes that many phones support SIP but believes that VoIP phones using protocols such as H.323, Megaco, and others should also be

included in the program. In fact, CEA does not see a reason to identify any specific protocol as long as a manufacturer is willing to make the necessary server facilities available to the laboratory doing the qualification testing.

CEA has taken note of the statement made during the October 4, 2011 webinar that cell phones, including cell phones that also support VoIP capabilities (e.g., via a Wi-Fi® connection), are not being included in the Telephony Program. However, further clarification is needed about another form of “hybrid” telephone that has capabilities of making both an analog connection to the public switched telephone network (PSTN) and VoIP connection via the Internet. It would seem logical to include such products in the Telephony Program as long as they can meet the qualification requirements for both methods of operation.

Some changes are needed in the definitions section of the document.

Since cellular telephones are not to be included in the Telephony Program, either the definition for **Cellular Telephone** should be deleted from the document or a statement added clearly indicating that such telephones are not covered by the specification. Such a statement was included directly with the definition in the v2.1 Telephony Specification. In the v2.2 specification it was handled by having separate clauses listing products covered and products not covered. Either approach is acceptable, but something should be done to make it clear that cellular phones are not included.

Separate definitions are provided for **Cordless Telephone** and **Combination Cordless Telephone/Answering Machine (Combination Unit)**, but a similar distinction is not made between **Corded Telephone** and **Combination Corded Telephone/Answering Machine**. The current energy usage requirements for Cordless Telephones and Combination Units are different. It might be desirable to make a similar distinction for Corded Telephones in case the energy usage requirements need to be different for corded telephones with and without answering systems. In that case, the four categories could be identified as **Corded Telephones, Corded Combination Units, Cordless Telephones, and Cordless Combination Units**. It might also be helpful to define **Hybrid Corded/Cordless Telephones** and **Hybrid Corded/Cordless Combination Units**.

The use of the term **Idle Mode** to describe the case where the phone is “off hook” and receiving dial tone will be a source of confusion. The term “idle state” has long been used in telephony to describe the condition where the phone is connected for service but is “on hook” (i.e., the **Partial On (Sleep) Mode** in the proposed definitions). CEA would prefer to see a term such as **Dial Tone Mode** used as the name of this off-hook mode. Even **Off-Hook Idle Mode** would be preferable to just **Idle Mode**.

The definition of **External Power Supply (EPS)** is limited to devices that provide a low voltage dc output. CEA believes this is probably an oversight. While some EPS do provide a dc output, many EPS included in the current Telephony Program provide an ac output. The definition should be changed from “designed to convert line voltage ac input from the mains

to lower dc voltage(s).” to “designed to convert line voltage ac input from the mains to lower ac or dc output voltage(s).”

The definition of a **Product Family** includes examples of products that only vary from one another in terms of their color or housing. CEA believes it is important to explicitly add multi-handset telephone families as an example for this definition. A multi-handset family consists of one base unit with its cordless handset and N-1 additional handsets, each with its own charging unit, to form an N handset system. Obviously the base unit with its handset must meet the energy usage requirement for that configuration and each of the additional handset with charger units must meet its energy usage requirement. But there is no sense in having to make separate submittals for 3, 4, 5, etc. handset systems where each of the additional handset/charger unit combinations are identical.

The term **Computer Connectivity** or **VoIP Phone with Computer Connectivity** needs to be defined since there is a whole section (Clause 8) devoted to measurements for VoIP phones with computer connectivity. The term appears to be related to switching or routing capabilities included in the VoIP phone.

Comments related to the proposed test set up and measurement procedures.

There is a step function discontinuity in the Section 4(G) measurement accuracy requirements for both PoE and regular AC power meters. The measurement uncertainty is required to be less than 5% in general, or less than 0.1 W for measurements less than 0.5 W. However, this means the maximum uncertainty requirement changes from 0.1 W at 0.5 W to 0.03 W at 0.6 W. It only gets back to an allowance of at least 0.1 W for values that are 2.0 W or higher.

Section 4(G) also requires that the specified accuracy of the power meters be met at the 95% confidence level. CEA is unsure whether power meter manufacturers include statements about the confidence level of the meter's accuracy in their product specifications. Has EPA investigated whether the laboratories doing this testing will be easily able to determine whether the meters they use meet the specified accuracy requirements at the 95% confidence level?

The procedure for determining and reporting average power measurements using PoE meters appears to be incorrectly stated in Section 5.2(A)(2), which reads, “If the difference in power between **any** of the seven readings and their average is less than 10% of the average (arithmetic mean) value, report the average.” CEA believes the word “any” should be “all.” The purpose of this averaging procedure is to make sure a stable value has been reached and is reported. Consider the case where seven consecutive readings are 2.1, 2.2, 2.4, 2.5, 2.6, 2.8, and 2.9. The average value is 2.5 and 10% of the average value is .25. So while three of the seven readings are within 10% of the average value, four are not. Has the system settled down to a stable value? The text as written says to report 2.5 as the average value because some (any = at least one) of the values are within 10% of this average value. Note that Section 5.2(A)(3) says that if the difference between **any** of the seven readings and the average is greater than or equal to 10% of the average (four cases of this in the above

