

**BEFORE THE UNITED STATES
DEPARTMENT OF ENERGY**

IN THE MATTER OF
PROPOSED DETERMINATION OF SET-TOP
BOXES AND NETWORK EQUIPMENT
AS A COVERED CONSUMER PRODUCT

Docket No. EERE-2-1—BT-DET-0040
RIN 1904-AC52

**COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION
REGARDING THE PROPOSED DETERMINATION OF SET-TOP BOXES AND
NETWORK EQUIPMENT AS A COVERED CONSUMER PRODUCT**

Dated: September 30, 2011

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I. INTRODUCTION

The Telecommunications Industry Association (TIA) appreciates the opportunity to provide comments on the Proposed Determination of Set-Top Boxes and Network Equipment as a Covered Consumer Product under the Energy Policy and Conservation Act (EPCA). TIA represents the global information and communications technology industry through standards development, advocacy, tradeshow, business opportunities and market intelligence. For over eighty years, TIA has enhanced the business environments for broadband, mobile wireless, information technology, networks, cable, satellite, and unified communications. TIA's 600 member companies' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment. TIA's members produce the equipment and solutions that make up our Nation's rapidly evolving communications networks and are affected by a number of issues in the Proposed Determination.

TIA appreciates the energy conservation program run by the Department of Energy and recognizes the success of the program in achieving energy efficiency gains in a variety of

product categories. One reason for the success of the program has been the selection of product categories where the future of the technology and competing technologies are well understood, the pathway to efficiency gains is clear, and the functionality of the product is not in a state of flux. Refrigerator-freezers, air conditioners, water heaters, furnaces, washers and dryers, ovens, pool heaters, showerheads, faucets, urinals, etc. are examples of single function, mature products covered by the EPCA where the product technology was in a phase where the Department could set standards that are technically feasible and economically justified. TIA has significant concerns with applying this model to cover set-top boxes and network equipment given the rapid evolution of these technologies and the functionality provided by those technologies. Set-top boxes and network equipment remain immature in terms of both technology and architecture. Mandating conservation standards at the main communications gateway to the home, where significant changes in functionality are most efficient and likely to occur would lead to a series of unintended consequences. Mandating conservation standards for set-top boxes and network equipment could result in higher energy consumption overall and higher costs to consumers while negatively impacting innovation and competition in the marketplace. TIA believes the Energy Star program is the best vehicle to improve energy efficiency for set-top boxes and network equipment moving forward.

II. DISCUSSION

1. CLASSIFYING SET-TOP BOXES AND NETWORK EQUIPMENT AS A COVERED PRODUCT IS NOT NECESSARY OR APPROPRIATE TO CARRY OUT THE PURPOSES OF THE EPCA

Energy conservation is the primary purpose of the EPCA. Limiting the functionality of a set-top box or other network equipment by imposing an efficiency standard could result in the unintended consequences of increasing energy consumption by requiring consumers to buy

separate future functionalities in separate devices where much of the functionality could be consolidated into individual devices. Examples of functionalities that could be consolidated rather than offered through multiple devices include home energy management and smart grid devices, home security systems, health monitoring systems and VoIP. Setting an energy efficiency standard for set-top boxes or other home network equipment such as routers might increase the efficiency of the individual devices, but such standards would lead to a proliferation of separate devices to cover each functionality a consumer desired in the future. Mandating efficiency standards are most effective for mature, single-function devices. Set-top boxes and network equipment have the potential to change functionality significantly over the next several years. The network termination point for the home is not at a stage where it can receive the same regulatory treatment as a water heater or faucet. Mandating efficiency standards at this stage will create a disincentive for the development of multi-function devices, particularly for devices with gateway functionality.

Limiting the functionality of set-top boxes and other network equipment will also limit innovation and competition in devices at the gateway to the home by picking technology winners based solely on the energy efficiency of the technology. The video delivery market has been in a constant state of flux over the last decade and will continue to see rapid changes in the near term. Consumers access video via traditional cable providers, satellite TV, over-the-top (OTT) streaming, IP based services and mobility solutions. Consumers now have the option to consume video in unprecedented ways with unprecedented means, and the evolution of technologies in this space will continue to accelerate. Imposing efficiency standards on this highly competitive market would likely result in any developed standard being outdated by the time it was completed. For example, had the Department of Energy started developing a video delivery

device energy efficiency standard five years ago, solutions such as Apple TV, Hulu, Netflix streaming, among others, would not have even existed. Imposing an energy efficiency standard on video delivery devices would have a chilling effect on technological innovation in this market, which could also hamper conservation efforts in the long term by steering technology research and development efforts away from technology innovation that could eliminate the need for set-top boxes entirely. Given the rapid evolution of the market, a voluntary model such as Energy Star is preferred to achieve energy efficiency gains while preserving competition and innovation in the market.

2 THE PROPOSED DEFINITION OF COVERED PRODUCTS FOR THE RULEMAKING IS OVERLY BROAD

TIA has significant concerns with the proposed definition of set-top boxes and network equipment. In the Proposed Determination, the proposed definition of set-top boxes and network equipment to consider test procedures and energy conservation standards is:

“A device whose principle function(s) are to receive television signals (including, but not limited to, over-the-air, cable distribution system and satellite signals) and deliver them to another consumer device, or to pass Internet Protocol traffic among various network interfaces.”

As written, the proposed definition could be read to cover any device whose principle function is to pass Internet Protocol traffic among various network interfaces, which would result in a substantial amount of the Nation’s communications infrastructure in both the consumer and commercial market being classified as a covered product. The phrase “or to pass Internet Protocol traffic among various network interfaces” is so broad that it should be deleted from the definition as it stretches the scope of covered products beyond what the rulemaking could feasibly cover. The focus of the proposed determination appears to be set-top boxes and other

devices that allow the delivery of video, but the definition as written does not make that clear. The scope of the definition should be narrowed to the specific device(s) being covered in the home. For set-top boxes, there are existing definitions used in the Energy Star program that would be a preferred starting point. The definition is also unclear as to what is meant by “whose principle function(s) are to receive television signals.” With the rapid evolution of home networking technologies, particularly for the delivery of video, it will become increasingly difficult to determine what the principle function of a device is. The definition of “television signal” is also unclear and unworkable because if interpreted broadly, it could cover any device capable of video delivery. As written, the language for the Proposed Definition is too broad to know which products the Department is taking into consideration.

3 THE DEPARTMENT OF ENERGY SHOULD MAKE CLEAR THAT THE DEFINITION OF SET-TOP BOXES AND NETWORK EQUIPMENT SHOULD NOT INCLUDE COMMERCIAL NETWORK EQUIPMENT

As explained above, the proposed definition reads so broadly that it would propose covering practically all commercial and consumer network equipment in addition to set-top boxes. TIA recommends that commercial or consumer network equipment should not be covered products under the EPCA. For consumer network equipment, this is particularly critical for any device that acts as the network termination point for either a service provider or IP network. On the commercial side, commercial network equipment differs dramatically from consumer network equipment and would be nearly impossible to cover under the same determination or rulemaking and would require the participation of a much larger number of stakeholders. Whatever action the Department of Energy takes, TIA strongly recommends that commercial equipment should be excluded from consideration for coverage under the EPCA.

4 INNOVATION IN SET-TOP BOX AND NETWORK EQUIPMENT TECHNOLOGY AND ARCHITECTURES WILL PRODUCE GREATER ENERGY CONSERVATION THAN MANDATED STANDARDS

Set-top boxes and network equipment have seen significant advances in achieving energy efficiency in the absence of mandated standards. Specifically, the platform architecture for set-top boxes has evolved the current architecture where a host set-top box with higher energy consumption is networked to multiple client set-top boxes in the home with significantly reduced energy consumption. This architecture would not have developed if a mandated standard existed that limited the technology community from increasing the functionality of the host set-top box. TIA anticipates additional changes in functionality for set-top boxes in the future as they have the potential to develop into a main communications gateway for the home. Mandated efficiency standards are counterproductive for technologies that have significant changes in functionality. There is no clear technology path forward that industry is not already pursuing and integrating into their products in this market that mandated standards would accelerate or make more feasible. Deep sleep modes are often discussed as a means to achieve greater efficiency, but requiring deep sleep modes for host set-top boxes would result in eliminating set-top boxes as a competing technology as a main communications gateway to the home. Mandating energy efficiency standards could preclude the development of VoIP services for set-top boxes and other future functionalities that would be more efficient if consolidated into a multi-function device.

5 THE ENERGY STAR PROGRAM IS THE BEST VEHICLE FOR IMPROVING ENERGY EFFICIENCY OF SET-TOP BOXES AND NETWORK EQUIPMENT MOVING FORWARD

Mandating efficiency standards for set-top boxes and network equipment under the EPCA would be duplicative and would not be complementary to efforts that the Energy Star program has undertaken specific to set-top boxes and small network equipment. As a voluntary

program, the Energy Star program provides the flexibility and ongoing dialogue necessary to address changes in functionality and energy consumption of set-top boxes and network equipment as they occur in ways that would not be possible under a mandatory regime. Industry is already engaged with the Energy Star Program in developing leading energy efficiency standards for set-top boxes and small network equipment, pushing for substantial reductions in qualifying energy allowances. The most recent allowances increased efficiency requirements for set-top boxes by 20%. By 2013, draft allowances would increase efficiency requirements 30%. A mandated approach, focused on minimum standards and without the flexibility provided by the Energy Star Program, would not be able to achieve such results.

III. CONCLUSION

TIA appreciates the opportunity to provide input and looks forward to working with the Department of Energy and other stakeholders on these issues in the future.

Respectfully signed and submitted on September 30, 2011.

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