

**BEFORE THE UNITED STATES
DEPARTMENT OF ENERGY**

IN THE MATTER OF
ENERGY CONSERVATION PROGRAM:
TEST PROCEDURE FOR SET-TOP BOXES

Docket No. EERE-2012—BT-TP-0046
RIN 1904-AC52

**COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION
REGARDING THE ENERGY CONSERVATION PROGRAM: TEST PROCEDURE
FOR SET-TOP BOXES**

Dated: April 8, 2013

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	DISCUSSION	
	TIA BELIEVES THAT THE PROPOSED TEST PROCEDURE IN CONJUNCTION WITH A MANDATED EFFICIENCY STANDARD WILL BE UNABLE TO ANTICIPATE TECHNOLOGY CHANGES AND WILL SIGNIFICANTLY IMPAIR INNOVATION OF SET-TOP BOX TECHNOLOGY	3
	TIA AGREES THAT NETWORK EQUIPMENT AND INFRASTRUCTURE DEVICES SHOULD BE EXCLUDED FROM THE SCOPE OF THIS PROPOSED RULEMAKING	6
III.	CONCLUSION	6

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I. INTRODUCTION

The Telecommunications Industry Association (TIA) appreciates the opportunity to provide comments regarding the Energy Conservation Program: Test Procedure for Set-top Boxes. TIA represents hundreds of information and communications technology (ICT) manufacturer, vendor, and supplier companies in standards, government affairs and market intelligence. TIA's member companies' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, energy, government, the military, 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 Rulemaking.

A major function of TIA is the writing and maintenance of voluntary industry standards and specifications, as well as the formulation of technical positions for presentation on behalf of the United States in certain international standards fora. TIA is accredited by the American National Standards Institute (ANSI) to develop voluntary industry standards for a wide variety of telecommunications products and sponsors more than 70 standards formulating committees.

These committees are made up of over 1,000 volunteer participants, including representatives from manufacturers of telecommunications equipment, service providers and end-users, including the government. The member companies and other stakeholders participating in the efforts of these committees and sub-groups have produced more than 3,000 standards and technical papers that are used by companies and governments to produce interoperable products around the world. From this experience, TIA continues to witness firsthand the technological innovation in the ICT sector enabled by the use of voluntary industry standards. The flexibility provided by voluntary standards is of particular importance in the ICT sector as technologies in the sector continue to rapidly evolve and transfer and consolidate functionalities in different parts of the network.

TIA has serious and significant concerns with the Proposed Rulemaking in developing a test procedure and mandating an energy efficiency standard for set-top boxes. As stated in previous comments, TIA appreciates the energy conservation program run by the DOE 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 Energy Policy and Conservation Act (EPCA) where the product technology was in a phase where the DOE could set standards that are technically feasible and economically justified.

TIA has serious and significant concerns with applying this regulatory model to cover set-top boxes and network equipment given both the immature nature and rapid evolution of these technologies. EPCA has never and should never be applied to nascent technologies like set-top boxes and other network equipment where the future functionalities of the technology are clearly in flux. Giving set-top boxes the same regulatory treatment used to mandate the efficiency of toilets and other single function products will unavoidably result in unintended negative consequences for the innovation of set-top boxes in the future, regardless of how carefully the test procedure is crafted. Set-top boxes and network equipment remain immature in terms of both technology and architecture. Mandating conservation standards at a main communications gateway to the home, where significant changes in functionality are most efficient and likely to occur will negatively impact innovation and competition in the marketplace and could result in higher energy consumption overall and higher costs to consumers. TIA agrees with DOE's conclusion that network equipment and other infrastructure devices should be excluded from the proposed rulemaking entirely.

II. DISCUSSION

1. TIA BELIEVES THAT THE PROPOSED TEST PROCEDURE IN CONJUNCTION WITH A MANDATED EFFICIENCY STANDARD WILL BE UNABLE TO ANTICIPATE TECHNOLOGY CHANGES AND WILL SIGNIFICANTLY IMPAIR INNOVATION OF SET-TOP BOX TECHNOLOGY

One of the stated objectives for the DOE set-top box test procedure is that it “anticipates technology changes.”¹ TIA agrees that anticipating technology changes is critical to the development of the test procedure to avoid the unintended consequence of this proposed rulemaking stifling future technology development with set-top boxes. The problem with

¹ See Set-top Box Test Procedure Notice of Proposed Rulemaking Public Meeting Presentation, 12 (February 27, 2013) available at http://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx/ruleid/33.

anticipating technology changes for set-top boxes and most ICT equipment in general, is that it is impossible to do.

A good analogy for potential future innovation with set-top boxes is the mobile phone. Set-top boxes and other home network equipment are similar to mobile phones in that they are ICT devices utilized daily by most consumers and function as a primary communications gateway, making them a natural convergence point for multiple functionalities and innovation of future consumer services. Over the last two decades, we have watched mobile phones rapidly develop from devices providing basic voice and simple text messages to the current smart phone that continually integrates more functionality in unanticipated ways. Two decades ago, no one would have anticipated that mobile phones would be able to conduct medical grade electrocardiograms or blood tests. As a single device, the smart phone supplants a long list of consumer devices including: alarm clocks, GPS devices, pocket digital cameras, mp3 players, radios, personal digital assistants, voice recorders, game consoles, and a host of other devices now replaced by applications. The ability to consolidate functionality in a single device results in significant benefits to consumers and, most relevant to this proceeding, reduced energy consumption. Most, if not all, of this innovation may never have occurred if the EPCA regulatory process currently being proposed for set-top boxes had been applied to first or second generation mobile phones, as mobile phone functionality would have been frozen in time to provide basic voice and simple text messaging. Two decades ago, when mobile phones were less complex, some environmental advocates explored and put forward ideas to limit the energy consumption of mobile phones, including energy consumed through higher cell phone functions on the other side of the battery and battery charger system. Two decades ago it would have been possible for the DOE, environmental advocates and the mobile phone industry to come together

to develop a test procedure, measure the efficiency of an entire mobile phone in operation and develop Federal energy conservation standards for mobile phones. In hindsight, this would have had catastrophic impacts on the innovation and convergence of technologies in smart phones.

This proposed rulemaking would take the regulatory burden that was not imposed on mobile phones and imposes it on set-top boxes. In terms of technology development, set-top boxes are at the same stage as first and second generation mobile phones two decades ago. While set-top boxes currently have a primary function of delivering video services, the potential for convergence of other unanticipated functionalities into set-top boxes is extremely high. It is critical for DOE to recognize the role that software upgrades will play in changing the energy use profile of set-top boxes. In addition to software upgrades by service providers, software could provide a much larger role in STBs moving forward. Similar to mobile phones, it is not far-fetched to imagine the development of an app store for set-top boxes where consumers select from a wide range of software applications, each with their own distinct energy use requirements. VoIP, home security systems, home health monitoring and home energy management are a few examples of future functionalities that could be controlled through set-top boxes, and there are doubtless many other applications and functionalities that could converge in set-top boxes that we are not anticipating. A DOE test procedure working in conjunction with an energy efficiency mandate would not provide the flexibility needed for vendors and service providers to develop such applications and consolidate additional functionalities into set-top boxes. The waiver process required under EPCA will not work quickly enough for ICT equipment and software upgrades generally. DOE seems to be under the impression that a test procedure may be drafted in a way that will allow mandating energy use of the product to take place without limiting innovation in the future. TIA strongly disagrees.

2 TIA AGREES THAT NETWORK EQUIPMENT AND INFRASTRUCTURE DEVICES SHOULD BE EXCLUDED FROM THE SCOPE OF THE PROPOSED RULEMAKING

If the DOE determines to move forward with the Proposed Rulemaking, TIA agrees with the DOE's determination that the scope should be narrowed to focus exclusively on set-top boxes. Network equipment such as routers and switches differ significantly in functionality and use from set-top boxes, and it would be not feasible to develop a test procedure applicable to both categories within the same rulemaking. Additionally, infrastructure devices such as LNBs, ONTs, and ODU's present too much complexity to be included in the same rulemaking.

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 April 8, 2013.

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

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