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**BEFORE THE UNITED STATES
DEPARTMENT OF ENERGY**

IN THE MATTER OF ENERGY
CONSERVATION PROGRAM FOR
CONSUMER PRODUCTS AND CERTAIN
COMMERCIAL AND INDUSTRIAL
EQUIPMENT: PROPOSED
DETERMINATION OF COMPUTER
SERVERS AS A COVERED CONSUMER
PRODUCT

Docket No. EERE-2013-BT-DET-0034

RIN No. 1904-AD03

**COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION
REGARDING THE PROPOSED DETERMINATION OF COMPUTER SERVERS AS A
COVERED CONSUMER PRODUCT UNDER PART A OF TITLE III OF THE ENERGY
POLICY AND CONSERVATION ACT (EPCA)**

I. INTRODUCTION

The Telecommunications Industry Association (TIA) appreciates the opportunity to provide comments in response to the Proposed Determination of Computer Servers as a Covered Consumer Product (“Proposed Determination”).¹ 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.

¹ See U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Proposed Determination of Computer Servers as a Covered Consumer Product, 78 Fed. Reg. 41868-41873 (July 12, 2013), available at www.gpo.gov/fdsys/pkg/FR-2013-07-12/pdf/2013-16730.pdf.

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.

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.

In the Proposed Determination, the DOE requests comments regarding the definition of computer servers, whether classifying computer servers as a covered product is necessary or appropriate to carry out the purposes of EPCA, calculations and values for average household energy consumption, and availability or lack of availability of technologies for improving energy efficiency of computer servers. TIA offers the following recommendations to the DOE in

determining how to proceed with the Proposed Determination.

II. DISCUSSION

1. SERVERS DO NOT MEET THE DEFINITION OF “CONSUMER PRODUCT” UNDER EPCA

In order for DOE to make a determination that servers qualify as covered consumer products under EPCA, servers must first qualify as consumer products as defined by EPCA.

EPCA explicitly defines a “consumer product” as follows:

The term “consumer product” means any article (other than an automobile, as defined in section 32901(a)(3) of title 49) of a type---

(A) which in operation consumes or is designed to consumes, energy or, with respect to showerheads, faucets, water closets, and urinals, water; and
(B) which, to any significant extent, is distributed in commerce for personal use or consumption by individuals;

without regard to whether such article or such type is in fact distributed in commerce for personal use or consumption by an individual, except that such term includes fluorescent lamp ballasts, general service fluorescent lamp ballasts, incandescent reflector lamps, showerheads, faucets, water closets, and urinals distributed in commerce for personal or commercial use or consumption.²

The Proposed Determination fails to describe how a server qualifies as a “consumer product” as defined by EPCA. The Proposed Determination does not make any claim or showing as to how a computer server “to any significant extent, is distributed in commerce for personal use or consumption by individuals.” The servers contemplated by the Proposed Determination are data center and enterprise servers, which by use and design are commercial products sold for use or consumption by business or commercial establishments. The definition of servers proposed by the DOE itself in the Proposed Determination confirms the understanding that servers are commercial, not consumer devices. The Proposed Determination defines a server as follows:

² See Energy Policy and Conservation Act, 42 U.S.C. § 6291(1), available at www.gpo.gov/fdsys/pkg/USCODE-2010-title42/pdf/USCODE-2010-title42-chap77-subchapIII-partA-sec6291.pdf.

A computer that provides services and manages networked resources for client devices (e.g., desktop computers, notebook computers, thin clients, wireless devices, PDAs, IP telephones, other computer servers, or other network devices). A computer server is primarily accessed via network connections, versus directly connected user input devices such as a keyboard or mouse.³

This definition is problematic for several reasons. If read literally, it would cover an impossibly broad class of diverse networking products that could not be included in the same rulemaking. If read narrowly to focus on servers, which appears to be DOE's intent, it is clearly referencing data center and enterprise servers, which are not consumer products. A server that "provides services and manages network resources for client devices" or that is "primarily accessed via network connections" to manage devices such as computer servers or other network devices is clearly not intended for "personal use or consumption by individuals." The already established definition of a computer server used by ENERGY STAR and developed in coordination with DOE is even more explicit regarding the commercial nature of servers. The ENERGY STAR definition of a computer server states:

Computer Server: A computer that provides services and manages networked resources for client devices (e.g., desktop computers, notebook computers, thin clients, wireless devices, PDAs, IP telephones, other computer servers, or other network devices). ***A computer server is sold through enterprise channels for use in data centers and office/corporate environments.*** A computer server is primarily accessed via network connections, versus directly-connected user input devices such as a keyboard or mouse.⁴

The Proposed Determination's exclusion of the fact that a computer server is sold through enterprise channels for use in data centers and office/corporate environments does not make it any less true. While it may be possible to find outlier individuals that have purchased a server, this would be exceedingly rare and would not transform servers from commercial products to

³ See Proposed Determination at 41870.

⁴ See ENERGY STAR Program Requirements Product Specification for Computer Servers Eligibility Criteria Version 2.0 Rev. Apr 2013, (emphasis added) available at www.energystar.gov/products/specs/sites/products/files/Final%20Version%20%200%20Computer%20Servers%20Program%20Requirements_0.pdf.

consumer products under EPCA. The statutory language of EPCA requires that a consumer product “*to any significant extent*, is distributed in commerce for personal use or consumption by individuals.”⁵ Again, the Proposed Determination does not make any showing as to what extent servers are distributed in commerce for personal use or consumption by individuals. Interpreting the definition as broadly as would be required to classify servers as consumer products would provide virtually no limitation on DOE’s authority to make determinations that commercial products are subject to regulation as consumer products under EPCA. The Proposed Determination references increased cloud computing and reliance of individuals and businesses on centralized applications and data storage as a justification to determine servers are covered products, but increased individual use of services enabled by commercial equipment also cannot be interpreted to transform commercial equipment into consumer equipment for the purposes of the statute. Such an interpretation would provide DOE with open-ended authority to make determinations that almost any commercial product is a consumer product under DOE regulatory authority, which is clearly not the intent of the language in the statute. Also, EPCA lists twenty consumer products that Congress intends DOE to cover under EPCA, including: refrigerators, freezers, air conditioners, water heaters, furnaces, dishwashers, etc. Each of the products listed in EPCA are clearly consumer products intended for personal use or consumption by individuals. None of the products listed are commercial products like servers, which further reinforces the interpretation that EPCA is not intended to cover commercial products. Because servers are commercial products, not consumer products, DOE lacks the regulatory authority to make a determination that servers are covered consumer products under EPCA.

⁵ See *id.* (emphasis added).

In addition to requiring that the proposed covered product be a consumer product, EPCA also requires a showing that the “average annual per-household energy use by products of such type is likely to exceed 100 kilowatt-hours (or its BTU equivalent) per year.”⁶ Rather than calculating the average annual per-household energy use, as required by the statute, the Proposed Determination estimates energy use of the server but does not provide a per-household average based on how servers are used in the marketplace. As servers are used in enterprise and data centers and not in individual households, the assumptions made in the Proposed Determination that server energy use equates with household energy use is not tenable. The Proposed Determination fails to show that the average annual per-house hold energy use of a server is likely to exceed 100 kilowatt-hours, and can therefore not be declared a covered consumer product under EPCA.

2. CLASSIFYING COMPUTER SERVERS AS A COVERED PRODUCT IS NOT NECESSARY OR APPROPRIATE TO CARRY OUT THE PURPOSES OF EPCA

The current ecosystem including market demand for energy efficient products, market competition, industry innovation and effective public/private voluntary energy efficiency programs has resulted in significant gains in the energy efficiency of computer servers and will continue to do so for the foreseeable future. Absent mandated government regulations, the energy efficiency of computer servers has increased significantly as manufactures continue to innovate and utilize more energy efficient technology. Given the energy use and accompanying operating costs of data centers, market demand is pushing industry to maximize the energy efficiency of computer servers. Buyers of servers are highly cognizant and educated about the characteristics of the equipment they are buying including the energy use profile of servers, and the disclosure of the energy use of servers is common practice. It is critical to maintain the

⁶ See 42 USC § 6292(b)(1)(B).

intelligence of the buyer in matching server architecture and energy use to the specific need the buyer needs to meet. Given the wide range of server architectural choices it is critical that a buyer have the ability to customize server architecture to meet their specific demand. Mandating a one size fits all energy use standard and associated level of performance will have the unintended consequence of increasing the overall energy footprint of data centers. For example, depending on the needs of the commercial entity, a server architecture can be more balanced toward computational, memory or I/O. A mandated efficiency standard, which would require these uses to be balanced, would result in mandating that a buyer buy more of a use that they do not need and less of a use that they do in each server, resulting in significant waste of both economic resources as well as energy. In short, mandated energy efficiency standards will result in the unintended consequence of increasing the overall energy usage of servers. Government mandates that require industry to design to a mandated energy efficiency standard rather than market demand and remove the intelligence from the buyer will upset the current ecosystem and create unique U.S. regulations and standards that diverge from global standards and inhibit both innovation and economic growth.

TIA has serious and significant concerns with the Proposed Determination in developing a test procedure and mandating an energy efficiency standard for servers as servers, like other ICT equipment, remain immature. 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 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 servers given both the immature nature and rapid evolution of these technologies. EPCA has never and should never be applied to nascent technologies like servers and other network equipment where the future functionalities of the technology are clearly in flux. Giving servers 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 servers in the future, regardless of how carefully the test procedure is crafted. Servers remain immature in terms of both technology and architecture.

TIA does not believe it is possible for the DOE to mandate energy efficiency standards for computer servers or other immature ICT equipment without stifling future innovation. The primary challenge with mandated standards for ICT equipment is the inability to anticipate future technology changes as ICT evolves rapidly and in unexpected ways. A good example of the rapid innovation of ICT is the development of smart phone. 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 servers 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. Because it is not possible to anticipate how server technology will innovate and integrate moving forward, TIA strongly recommends against mandating efficiency standards for servers.

3. VOLUNTARY PUBLIC-PRIVATE PARTNERSHIPS FOCUSED ON DISCLOSURE OF ENERGY USE SUCH AS THE ENERGY STAR PROGRAM ARE THE MOST EFFECTIVE VEHICLE MOVING FORWARD FOR IMPROVING THE ENERGY EFFICIENCY OF COMPUTER SERVERS

As stated above, voluntary public-private partnerships such as the ENERGY STAR have played an important role in encouraging industry adoption of energy efficient practices without impeding innovation of next generation products. TIA and our members have long been supporters of the ENERGY STAR program in a variety of product categories and commend the program as a successful partnership between the EPA, DOE and industry to recognize and reward innovation in energy efficiency. Industry is actively engaged with the ENERGY STAR

program in developing leading energy efficiency standards for computer servers, which provide disclosure of energy use. A voluntary approach that educates buyers about the energy use profile of servers maintains the intelligence of the buyer while allowing industry to continue to innovate new server technology in the future. A mandated approach, focused on minimum standards and without the flexibility provided by the ENERGY STAR Program, would not be able to achieve efficiency gains achievable through industry working with ENERGY STAR.

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 12, 2013.

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