



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-4561

February 24, 2012

William H. Aaronson  
Comcast Corporation  
william.aaronson@davispolk.com

Re: Comcast Corporation

Dear Mr. Aaronson:

This is in regard to your letter dated February 21, 2012 concerning the shareholder proposal submitted by the New York City Employees' Retirement System, the New York City Fire Department Pension Fund, the New York City Teachers' Retirement System, the New York City Police Pension Fund, and the New York City Board of Education Retirement System for inclusion in Comcast's proxy materials for its upcoming annual meeting of security holders. Your letter indicates that the proponents have withdrawn the proposal, and that Comcast therefore withdraws its January 25, 2012 request for a no-action letter from the Division. Because the matter is now moot, we will have no further comment.

Copies of all of the correspondence related to this matter will be made available on our website at <http://www.sec.gov/divisions/corpfin/cf-noaction/14a-8.shtml>. For your reference, a brief discussion of the Division's informal procedures regarding shareholder proposals is also available at the same website address.

Sincerely,

Matt S. McNair  
Attorney-Adviser

cc: Kenneth B. Sylvester  
The City of New York  
Office of the Comptroller  
1 Centre Street  
New York, NY 10007-2341

New York  
Menlo Park  
Washington DC  
São Paulo  
London

Paris  
Madrid  
Tokyo  
Beijing  
Hong Kong

# Davis Polk

William H. Aaronson

Davis Polk & Wardwell LLP 212 450 4397 tel  
450 Lexington Avenue 212 701 5397 fax  
New York, NY 10017 william.aaronson@davispolk.com

February 21, 2012

Re: **Comcast Corporation – Shareholder Proposal Submitted by The Office  
of the Comptroller of the City of New York**

Office of Chief Counsel  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, NE  
Washington D.C. 20549  
(via email: [shareholderproposals@sec.gov](mailto:shareholderproposals@sec.gov))

Ladies and Gentlemen:

In a letter dated January 25, 2012, we requested that the Staff of the Division of Corporation Finance concur that Comcast Corporation (“Comcast”) could properly exclude from its proxy materials for its 2012 Annual Meeting of Shareholders a stockholder proposal (the “Proposal”) submitted by The Office of the Comptroller of the City of New York, on behalf of the New York City Employees’ Retirement System, the New York City Fire Department Pension Fund, the New York City Teachers’ Retirement System, the New York City Police Pension Fund and the New York City Board of Education Retirement System (the “Proponent”).

Attached as Exhibit A is a letter from the Proponent to Comcast dated February 21, 2012 stating that the Proponent voluntarily withdraws the Proposal. In reliance on this letter, we hereby withdraw the January 25, 2012 no-action request relating to Comcast’s ability to exclude the Proposal pursuant to Rule 14a-8 under the Exchange Act of 1934.

Please call the undersigned at (212) 450-4397 if you should have any questions or concerns.

Very truly yours,



William H. Aaronson

Enclosures

**EXHIBIT A**

# **FACSIMILE**

**FROM THE**  
***THE CITY OF NEW YORK***  
***OFFICE OF THE COMPTROLLER,***  
***PENSION POLICY DIVISION***

**Date: February 21, 2012**

**Pages (cover +) 1**

**To: Mr. William H. Aaronson**  
Davis Polk & Wardwell LLP

**Facsimile Number: 212-701-5397**

**From: Kenneth B. Sylvester, Assistant Comptroller, Pension Policy**

**Telephone Number: 212-669-2013**



THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER  
1 CENTRE STREET  
NEW YORK, N.Y. 10007-2341

John C. Liu  
COMPTROLLER

**BY FACSIMILE: (215) 286-7794**

February 21, 2012

Mr. Arthur R. Block  
Senior Vice President, General Counsel and Secretary  
Comcast Corporation  
1701 John F. Kennedy Blvd.  
One Comcast Centre  
Philadelphia, PA 19103

Dear Mr. Block:

I hereby withdraw the proposal of the New York City Employees' Retirement System, the New York City Fire Department Pension Fund, the New York City Teachers' Retirement System, the New York City Police Pension Fund, and the New York City Board of Education Retirement System (the "Systems") that was enclosed with my letter to you, dated November 15, 2011, on behalf of the Comptroller of the City of New York, John C. Liu, and submitted for the consideration and vote of stockholders at Comcast Corporation's 2012 annual meeting

If you have any questions regarding the withdrawal of the Systems' proposal, please do not hesitate to call me at (212) 669-2013.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kenneth B. Sylvester".

Kenneth B. Sylvester  
Assistant Comptroller for Pension Policy

cc: William H. Aaronson  
Davis Polk & Wardwell LLP  
212 701 5397 fax

New York  
Menlo Park  
Washington DC  
London  
Paris  
Madrid  
Tokyo  
Beijing  
Hong Kong



Davis Polk & Wardwell LLP 212 450 4000 tel  
450 Lexington Avenue 212 701 5800 fax  
New York, NY 10017

January 25, 2012

Re: ***Shareholder Proposal Submitted by The Office of the Comptroller of the City of New York***

Office of Chief Counsel  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549  
via email: [shareholderproposals@sec.gov](mailto:shareholderproposals@sec.gov)

Ladies and Gentlemen:

On behalf of our client, Comcast Corporation (“**Comcast**” or the “**Company**”), we write to inform you of the Company’s intention to exclude from its proxy statement and form of proxy for the Company’s 2012 Annual Meeting of Shareholders (collectively, the “**2012 Proxy Materials**”) the shareholder proposal (the “**Proposal**”) and related supporting statement received from The Office of the Comptroller of the City of New York, on behalf of the New York City Employees’ Retirement System, the New York City Fire Department Pension Fund, the New York City Teachers’ Retirement System, the New York City Police Pension Fund and the New York City Board of Education Retirement System (the “**Proponent**”).

We hereby respectfully request that the Staff of the Division of Corporation Finance (the “**Staff**”) concur in our opinion that the Company may, for the reasons set forth below, properly exclude the Proposal from the 2012 Proxy Materials. The Company has advised us as to the factual matters set forth below.

Pursuant to Staff Legal Bulletin No. 14D (CF), Shareholder Proposals (November 7, 2008), question C, we have submitted this letter and the related correspondence from the Proponent to the Commission via email to [shareholderproposals@sec.gov](mailto:shareholderproposals@sec.gov). Also, in accordance with Rule 14a-8(j), a copy of this letter and its attachments is being mailed on this date to the Proponent, informing the Proponent of the Company’s intention to exclude the Proposal from the 2012 Proxy Materials.

The Company plans to file its definitive proxy statement with the Securities and Exchange Commission (the “**SEC**”) on or about April 20, 2012. Accordingly, we are submitting this letter not less than 80 days before the Company intends to file its definitive proxy statement.

## Introduction

The Proposal, which as submitted by the Proponents is attached hereto as Exhibit A, requests that:

“the Board of Directors . . . publish a report . . . disclosing the actions the Company is taking to address: (1) Increasing public concern about the high costs to households from the inefficient consumption of electricity by the set-top boxes; and (2) Evolving regulatory policies, such as the EPA’s new Energy Star requirements for cable and satellite TV converter boxes.”

The Proposal goes on to state that such a report “should also include, as appropriate: (1) the Company’s efforts to accelerate the development of new energy efficient set-top boxes; and (2) the financial and reputation risks to the Company posed by continuing the installation of conventional set-top boxes over the long-term.”

Comcast requests that the Staff of the SEC concur with its view that the Proposal may be properly omitted from the 2012 Proxy Materials pursuant to the provisions of Rule 14a-8(i)(7) because the Proposal concerns a matter relating to the Company’s ordinary business operations and/or Rule 14a-8(i)(10) because the Company has already substantially implemented the substance of the Proposal.

## Grounds for Omission

### **I. The Proposal may be omitted from the 2012 Proxy Materials under Rule 14a-8(i)(7) because it deals with a matter relating to Comcast’s ordinary business operations.**

Rule 14a-8(i)(7) allows a company to omit a shareholder proposal from its proxy materials if such proposal deals with a matter relating to the company’s ordinary business operations. The general policy underlying the “ordinary business” exclusion is “to confine the resolution of ordinary business problems to management and the board of directors, since it is impracticable for shareholders to decide how to solve such problems at annual shareholders meetings.” Exchange Act Release No. 34-40018 (May 21, 1998) (the “**1998 Release**”). This general policy reflects two central considerations: (i) “[c]ertain tasks are so fundamental to management’s ability to run a company on a day-to-day basis that they could not, as a practical matter, be subject to direct shareholder oversight”; and (ii) the “degree to which the proposal seeks to ‘micro-manage’ the company by probing too deeply into matters of a complex nature upon which shareholders, as a group, would not be in a position to make an informed judgment.” The 1998 Release, citing in part Exchange Act Release No. 12999 (November 22, 1976). Additionally, when a proposal seeks a report, “the Staff will consider whether the subject matter of the special report . . . involves a matter of ordinary business; where it does, the proposal will be excludable under Rule 14a-8(c)(7).” Exchange Act Release 34-20091 (August 16, 1983).

#### **A. The Proposal Relates to Comcast’s Ordinary Business Operations – Responding to Customer Concerns with respect to Product Energy Efficiency**

Comcast competes and earns revenue by, among other things, providing high-quality cable and high-speed Internet services to both commercial and residential users in today’s rapidly evolving and highly competitive media and communications marketplace. To that end,

the Company and its management are continually focused on providing products, including hardware such as set-top cable boxes, that attract and meet the needs of consumers. In order to effectively accomplish that task, Comcast's management must respond to changes in the marketplace—including rising energy costs and evolving regulatory regimes—that present potential risks and opportunities for the Company. This implicates a host of routine management decisions, ranging from choosing which technologies the Company should utilize and what price the Company should charge for its services to making investments in research and new product development in light of market trends. By requesting a report on how the Company's Board of Directors (the "**Board**") and management are analyzing and reacting to a particular set of market risks, the Proposal falls within the scope of Comcast's ordinary business operations and seeks to bring a host of everyday management decisions under shareholder oversight. Pursuant to Rule 14a-8(i)(7), such a proposal is properly excluded.

Comcast strongly supports the goal of enhancing the energy efficiency of industry hardware such as set-top boxes. In furtherance of this goal, the Company has taken, and plans to continue taking, steps to ensure that it is responding to the important economic and environmental concerns of its customers relating to energy efficiency. For example, through its membership in the National Cable & Telecommunications Association (the "**NCTA**"), Comcast expects to be an active leader in a new initiative to continue improving the energy efficiency of consumer set-top boxes and develop advanced cable-enabled services designed to promote innovative consumer energy conservation measures. As outlined in the NCTA's Comments to the Department of Energy regarding its Energy Conservation Program for Consumer Products and Certain Commercial and Industrial Equipment: Proposed Determination of Set-Top Boxes and Network Equipment as a Covered Consumer Product (the "**NCTA Comments**"), attached hereto as Exhibit B, there are a variety of current and future equipment and service-related options that the Company can and will explore in order to best meet the demands of its customers in light of anticipated market conditions—including an evolving regulatory landscape. Given the numerous business considerations involved in formulating this type of strategic plan, Comcast respectfully argues the Proposal's subject matter falls squarely within the scope of Comcast's ordinary business operations.

The Proposal encroaches upon a number of the Company's core management functions, each of which the Staff has repeatedly found can justify a proposal's exclusion under Rule 14a-8(i)(7). For example, the Proposal relates directly to the technology Comcast has chosen to employ in its business operations. In CSX Corporation (Jan. 24, 2011), the Staff reaffirmed that "[p]roposals that concern a company's choice of technologies for use in its operations are generally excludable under rule 14a-8(i)(7)." In addition, the Proposal plainly relates to Comcast's decisions about which products and services it should provide to its customers. Again, the Staff has consistently taken the view that shareholder proposals relating to such decisions are excludable under the ordinary business operations exception. See, e.g., Dominion Resources, Inc. (Feb. 22, 2011) ("[W]e note that the proposal relates to the products and services that the company offers. Proposals concerning the sale of particular products and services are generally excludable under rule 14a-8(i)(7)"); and Pepco Holdings, Inc. (Feb. 18, 2011). Moreover, by framing the report as a response to "[i]ncreasing public concern about the high costs to households" and the "financial and reputational risks to the Company posed by continuing the installation of conventional set-top boxes over the long-term," the Proposal also relates directly to Comcast's customer relations and concerns regarding product quality. Such proposals are generally excludable under Rule 14a-8(i)(7). The Coca-Cola Company (Feb. 17, 2010). And by asking the Company to address its "efforts to accelerate the development and

deployment of new energy efficient set-top boxes,” the Proposal clearly relates to the Company’s choices regarding its product research and development (“R&D”), which, like decisions relating to a choice of technology or products is an ordinary business operation. See Pfizer Inc. (Jan. 23, 2006); Union Pacific Corp. (Dec. 16, 1996); and Chrysler Corp. (Mar. 3, 1988).

Furthermore, Comcast believes the Proposal’s primary focus is on the risk posed to the Company by increasing customer concern with respect to energy efficiency and future government regulation. The Staff has previously concluded that shareholder proposals focused on corporate risk associated with energy efficiency are excludable because of their relationship to ordinary business operations. See Pulte Homes, Inc. (March 1, 2007) (determining that a shareholder proposal requesting the company to assess its response to rising regulatory, competitive, and public pressure to increase energy efficiency related to the company’s ordinary business operations); Standard Pacific Corp. (Jan. 29, 2007) (same); Ryland Group, Inc. (Feb. 13, 2006) (same).

Comcast is aware that proposals otherwise related to ordinary business operations may not be excludable if those proposals raise issues of significant social policy that “transcend . . . day-to-day business matters and raise policy issues so significant that [the proposal] would be appropriate for a shareholder vote.” The 1998 Release. However, Comcast does not believe that a proposal related to the energy efficiency of set-top boxes raises such an issue (and has been unable to locate any contrary determination by the Staff). Comcast’s product selection and R&D practices are clearly within the realm of its ordinary business operations and, therefore, a report focused on such practices is excludable pursuant to Rule 14a-8(i)(7) even if such a report also has some tangential relationship to a social policy issue. See Staff Legal Bulletin 14E; accord Washington Mutual, Inc. (March 6, 2002) (excluding a shareholder proposal requesting a report identifying all company costs associated with land development projects); and The Mead Corporation (January 31, 2001) (excluding a shareholder proposal requesting a report on the company’s environmental risks in financial terms).

***B. The Proposal Relates to a Complex Matter That Is Most Appropriate for Management to Address***

Comcast respectfully submits that the Proposal is also excludable under Rule 14a-8(i)(7) because its substance relates to highly technical aspects of Company business and complex considerations of federal and state regulatory initiatives, both of which the Board and management are singularly situated to address.

A strategic business response to increasing customer concerns with respect to rising hardware-related energy costs requires not only a highly specialized technical knowledge of product engineering and design, but also a detailed understanding of the broader drivers of a customer’s decision-making process—one that weighs energy costs alongside a host of other factors such as price, functionality and feature set. Moreover, business considerations of regulatory initiatives involve not only exhaustive product-related technical expertise, but also a detailed understanding of, among other things, the applicable legal and regulatory landscape. The complexity of these issues makes responding to customer concerns with respect to product energy efficiency and proposed regulatory regimes poor topics for action by stockholders at an annual meeting, and it indicates that the Proposal is just the type of proposal that “seeks to ‘micro-manage’ the company by probing too deeply into matters of a complex nature upon which

shareholders, as a group, would not be in a position to make an informed judgment” (as stated in the 1998 Release).

Comcast believes that the Proposal is exactly the type of matter that the “ordinary business” exception in Rule 14a-8(i)(7) was created to address. By requesting that the Board of Directors prepare a report regarding its response to consumer concern with rising energy costs and on-going regulatory proceedings, the Proponents are seeking to subject to shareholder oversight an aspect of Comcast’s business that is most appropriately handled by Comcast’s management. The issues of how Comcast should properly improve its products’ energy efficiency while still offering competitive, cost-effective products that meet broader client demands, as well as how Comcast should respond to pending government proceedings regarding this aspect of its business, are central to the operation of the day-to-day business of Comcast. Executives and other managers routinely make decisions about how best to address prospective state and federal initiatives that may affect Comcast’s business, and it would be highly unusual and impractical to interject Comcast’s shareholders into what is otherwise a routine management decision. The Staff has consistently taken the position that proposals which attempt to govern internal operating policies and legal compliance may be excluded because they infringe upon management’s core functions. See, e.g., Verizon Communications Inc. (Feb. 22, 2007) (permitting exclusion of a proposal that sought a report on the technical, legal and ethical policy issues pertaining to the disclosure of customer records and communications content to government agencies without a warrant and the effect of such disclosures on customer privacy rights); Pfizer Inc. (Jan. 31, 2007) (permitting exclusion of a proposal requesting a report on the company’s “activity and plans with respect to certain regulatory matters and public policies” because it related to the “ordinary business operation[]” of “evaluating the impact of government regulation on the company”); Bank of America Corporation (Jan. 31, 2007) (same).

In General Electric Company (January 17, 2006) the proponent requested that the issuer prepare a report on the impact of a flat tax on the company. General Electric successfully argued that tax planning and compliance were “intricately interwoven with a company’s financial planning, day-to-day business operations and financial reporting.” In the same way, Comcast’s product design decisions involve an intricate understanding of Comcast’s business, and Comcast’s selection and disclosure of its energy management practices, both in general and as it relates to pending regulatory inquiries at the state level or by the Department of Energy (“DOE”), is a function of Comcast’s ongoing business practices.

As referenced above, the DOE is currently considering new regulations governing the energy efficiency of cable-related telecommunications hardware and has initiated a proceeding to consider whether to develop test procedures and energy conservation standards for set-top boxes and network equipment. The Proposal therefore effectively requires Comcast to take a public position and make other disclosures with respect to a pending political, legislative or regulatory process relating to an aspect of its business operations. Comcast’s participation, either directly or indirectly, in such an ongoing process is a matter properly reserved for management. The Staff has consistently excluded proposals on the ground that they were directed at involving a company in the political or legislative process relating to an aspect of its business operations. See Electronic Data Systems Corporation (March 24, 2000); Dole Food Company, Inc. (Feb. 10, 1992); see also General Motors Corporation (April 7, 2006); Verizon Communications, Inc. (January 31, 2006).

## **II. The Company has substantially implemented the Proposal and therefore the Proposal may also be omitted from the 2010 Proxy Materials pursuant to Rule 14a-8(i)(10).**

Rule 14a-8(i)(10) permits the exclusion of a shareholder proposal from a company's proxy statement if the company has already substantially implemented the proposal. See Exchange Act Release No. 34-20091 (August 16, 1983). According to the Commission, the exclusion provided for in Rule 14a-8(i)(10) "is designed to avoid the possibility of shareholders having to consider matters which already have been favorably acted upon by management." See Exchange Act Release No. 34-12598 (July 7, 1976). A shareholder proposal is considered to be substantially implemented if the company's relevant "policies, practices and procedures compare favorably with the guidelines of the proposal." Texaco, Inc. (March 28, 1991). The Staff does not require that a company has implemented every detail of a proposal in order to permit exclusion under Rule 14a-8(i)(10). Instead, the Staff has consistently taken the position that when a company already has policies and procedures in place relating to the subject matter of the proposal or has implemented the essential objectives of the proposal, the shareholder proposal has been substantially implemented and may be excluded pursuant to Rule 14a-8(i)(10). See ConAgra Foods, Inc. (July 3, 2006); The Talbots, Inc. (April 5, 2002); The Gap, Inc. (March 16, 2001) and Kmart Corporation (February 23, 2000).

As discussed above, Comcast is of the opinion that the Proposal's essential objective is to ensure that the Company has assessed the risks related to its hardware's energy efficiency and the evolving regulatory landscape and that it has developed a focused and concerted strategy to address these risks. Comcast respectfully argues that it has already taken steps that compare favorably with that aim and has therefore substantially implemented the Proposal.

Comcast has already made significant gains in making its set-top boxes more energy efficient. Comcast has been working with the EPA on its ENERGY STAR program since 2007, and in the first quarter of 2011 alone the Company deployed over 4 million set-top boxes to customers that met energy requirements associated with ENERGY STAR 2.0. In the second quarter of 2011, ninety-five percent of all set-top box units distributed by Comcast met then-existing ENERGY STAR standards. And per the cable industry's Energy Initiative (described in more detail below), Comcast is one of six cable operators that has committed to ensuring that, by the end of 2013, at least 90% of its new set-top box units will meet ENERGY STAR 3.0 requirements. The results of these efforts are telling: some HD-DVR set-top boxes that Comcast is deploying today have more processing power and home-networking capabilities than similar boxes deployed in 2002, but consume about half as much power.

In addition to its efforts to improve the energy efficiency of individual hardware units, Comcast has pursued alternative and innovative strategies to lower its products' overall energy requirements. For example, Comcast is deploying "whole home" cable solutions that utilize "thin" client set-top boxes on secondary outlets. These thin set-top boxes allow customers to enjoy many of the same features and functions included in full-capability set-top boxes, but use significantly less power, thereby curbing overall household energy consumption and lowering cable-related energy costs. Moreover, the Company has supplemented its innovative energy-efficiency measures with more traditional low-energy, low-cost consumer options, such as distributing over twenty million low-watt Digital Transport Adaptors that allow customers to view digital cable services while using a small fraction of the power drawn by more high-functioning hardware, such as HD/DVR set-top boxes.

As stated above, an important component of the Company's approach to this issue is its involvement with the CableLabs Energy Initiative through the NCTA.

On November 18, 2011, the NCTA announced the formation of the "Cable Energy Initiative," an "initiative dedicated to improving the energy efficiency of consumer set-top boxes and other devices and developing advanced cable-enabled services designed to promote innovative consumer energy conservation measures." See NCTA News Release of Nov. 18, 2011 (attached hereto as Exhibit C); see also National Resources Defense Counsel Staff Blog Post: "Cable Industry Owns Up to Energy Problem and Commits to Fixing It" (attached hereto as Exhibit D). The centerpiece of the Cable Energy Initiative was the creation of CableLabs® – Energy Lab, which is devoted exclusively to improving the energy efficiency of the industry's products and specifically those targeted by the Proposal.

Specifically, CableLabs® – Energy Lab will:

- develop a consistent ENERGY STAR-based tracking program among cable operators for measuring and reporting energy consumption on new-model set-top boxes that will promote accurate and consistent measurement across major cable operators;
- create a testing and development facility for developers of energy efficient software and hardware, as well as help to develop energy efficiency specifications for cable operators' semiconductor and hardware suppliers;
- promote the development of products that help consumers manage their overall residential energy consumption and showcase energy-saving products and power monitoring capabilities; and
- collaborate with other government, industry, and research organizations to develop approaches to reduce energy consumption within the cable industry.

CableLabs® – Energy Lab is scheduled to be fully functional by the first quarter of 2012.

In addition to CableLabs® – Energy Lab, the CableLabs Energy Initiative also sets new industry requirements and specifications for the energy efficiency of set-top boxes. These new requirements include the provision of "Light Sleep" mode for new model set-top boxes, and Comcast has committed to begin deploying set-top boxes with "Light Sleep" solutions as soon as 2012. Additionally, the participants of the CableLabs Energy Initiative have committed to developing "Deep Sleep" solutions in future generations of semi-conductors. The coordination and design phases for these new chips will begin this year, with field trials for set-top boxes with "Deep Sleep" functionality beginning as soon as the end of 2014.

Finally, the CableLabs Energy Initiative has established certain procurement commitments among its members. These commitments will help accelerate the purchase of more energy efficient devices. As previously mentioned, by the end of 2013, six of the largest cable operators—including Comcast—will ensure that at least 90% of all new set-top boxes purchased and placed in service will meet or exceed ENERGY STAR 3.0 standards.

In addition to the various actions described above, Comcast believes the Proposal has been further implemented by virtue of the public availability of various documents relating to actions by the Company through the NCTA that compare favorably with the Proposal's essential objective. The information described above has been the subject of public release. See NCTA News Release of Nov. 18, 2011 (attached hereto as Exhibit C). And the subject matter of the Proposal has been addressed at length in the NCTA's public comment on the Department of Energy's Proposed Determination regarding its Energy Conservation Program for Consumer Products and Certain Commercial and Industrial Equipment: Proposed Determination of Set-Top Boxes and Network Equipment as a Covered Consumer Product (attached hereto as Exhibit B).

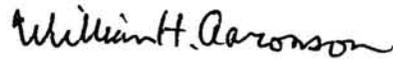
In The Gap, Inc. (March 16, 2001), the Staff allowed the company to exclude a proposal (on substantial implementation grounds) that requested a report on the child labor practices of the company's vendors. The company had already established a code of vendor conduct, monitored vendor compliance, published related information and was willing to discuss the issue with shareholders. Likewise, in Nordstrom, Inc. (February 8, 1995), the Staff allowed the company to exclude a proposal (on substantial implementation grounds) that requested that the company establish a set of standards for its suppliers that met certain minimum criteria and also that the company prepare a report to shareholders describing its policies as well as its current and future compliance efforts with respect to those policies. In that instance, Nordstrom was able to successfully argue that it had substantially implemented the proposal where it had in place existing company guidelines for suppliers and had issued a press release regarding such guidelines (despite the fact that the guidelines did not commit the company to conduct regular or random inspections to ensure compliance, as requested in the proposal). As indicated above, Comcast has substantially implemented the essential objectives of the Proposal and therefore respectfully submits that the Staff should allow Comcast to exclude the Proposal on such grounds.

## **Conclusion**

Comcast believes that the Proposal may be properly excluded from the 2012 Proxy Materials pursuant to Rule 14a-8(i)(7) because issues relating to energy efficiency of set-top boxes and related regulatory issues are within the scope of Comcast's ordinary business operations and the Proposal does not satisfy the social policy exception to this rule. Comcast also believes that the Proposal may be properly excluded from the 2012 Proxy Materials pursuant to Rule 14a-8(i)(10) because the Proposal has been substantially implemented.

We would be happy to provide you with any additional information and answer any questions that you may have regarding this subject. Should you disagree with the conclusions set forth herein, we respectfully request the opportunity to confer with you prior to the determination of the Staff's final position. Please do not hesitate to call me at (212) 450-4397 or Arthur R. Block, the Company's Senior Vice President, General Counsel and Secretary, at (215) 286-7564, if we may be of any further assistance in this matter.

Very truly yours,



William H. Aaronson

cc: Kenneth Sylvester  
The Office of the Comptroller of the City of  
New York

Arthur R. Block  
Comcast Corporation

**EXHIBIT A**



THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER  
1 CENTRE STREET  
NEW YORK, N.Y. 10007-2341

---

John C. Liu  
COMPTROLLER

November 15, 2011

Mr. Arthur R. Block  
Secretary  
Comcast Corporation  
1701 John F. Kennedy Blvd.  
One Comcast Centre  
Philadelphia, PA 19103

Dear Mr. Block:

I write to you on behalf of the Comptroller of the City of New York, John C. Liu. The Comptroller is the custodian and a trustee of the New York City Employees' Retirement System, the New York City Fire Department Pension Fund, the New York City Teachers' Retirement System, and the New York City Police Pension Fund, and custodian of the New York City Board of Education Retirement System (the "Systems"). The Systems' boards of trustees have authorized the Comptroller to inform you of their intention to present the enclosed proposal for the consideration and vote of stockholders at the Company's next annual meeting.

Therefore, we offer the enclosed proposal for the consideration and vote of shareholders at the Company's next annual meeting. It is submitted to you in accordance with Rule 14a-8 of the Securities Exchange Act of 1934, and I ask that it be included in the Company's proxy statement.

Letters from The Bank of New York Mellon Corporation certifying the Systems' ownership, for over a year, of shares of Comcast Corporation common stock are enclosed. Each System intends to continue to hold at least \$2,000 worth of these securities through the date of the Company's next annual meeting.

We would be happy to discuss the proposal with you. Should the Board of Directors decide to endorse its provision as corporate policy, we will withdraw the proposal from

Mr. Block  
Page 2

consideration at the annual meeting. If you have any questions on this matter, please feel free to contact me at 1 Centre Street, Room 629, New York, NY 10007; phone (212) 669-2013.

Very truly yours,

A handwritten signature in black ink, appearing to read "Kenneth B. Sylvester". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth B. Sylvester  
Assistant Comptroller of  
Pension Policy

KS/ma

Enclosures

Comcast Corporation – Set-Top Boxes

## ENERGY-EFFICIENT SET-TOP BOXES

Submitted by John C. Liu, Comptroller, City of New York, on behalf of the Boards of Trustees of the New York City Pension Funds

WHEREAS, a report by NRDC, "*Better Viewing, Lower Energy Bills, and Less Pollution: Improving the Efficiency of Television Set-Top Boxes*" ( June 2011), disclosed that set-top boxes, owned and installed in U.S. homes by service providers, such as **Comcast Corporation**, consumed approximately 27 billion kilowatt-hours of electricity, equivalent to the annual output of nine average (500MW) coal-fired power plants, resulting in 16 million metric tons of carbon dioxide emissions, and costing households more than \$3 billion annually; and

WHEREAS, when no one is watching television or recording shows, 66 percent of the power is wasted, so-called "**vampire power**"; and DVRs use about 40 percent more energy per year than non-DVR appliances; and

WHEREAS, Sky Broadcasting in Europe offers an energy efficient set-top box to households that draws 23watts in "**On**" mode, 13 watts in "**Sleep**" mode, and defaults to less than 1 watt in "**deep sleep**" state each evening at 11:00 p.m.; and

WHEREAS, under the EPA's Energy Star standards, TVs, and cable and satellite TV converter boxes are now required to use at least 40 percent less energy than comparable models; to address the "**vampire power**" issue, cable and satellite boxes must switch to a "**deep sleep**" mode while not in use to reduce energy consumption from 16 watts to 2 watts or less.

RESOLVED: Shareholders request the Board of Directors to publish a report, by September 2012, excluding proprietary information, disclosing the actions that the Company is taking to address:

- (1) Increasing public concern about the high costs to households from the inefficient consumption of electricity by the set-top boxes; and
- (2) Evolving regulatory policies, such as the EPA's new Energy Star requirements for cable and satellite TV converter boxes.

The report should also include, as appropriate: (1) the Company's efforts to accelerate the development and deployment of new energy efficient set-top boxes; and (2) the financial and reputational risks to the Company posed by continuing the installation of conventional set-top boxes over the long-term.

## **SUPPORTING STATEMENT**

A January 2011 survey, commissioned by the Consumer Federation of America, of public attitudes toward energy consumption of household appliances and support for government standards that set minimum levels of energy efficiency for household appliances, found that nearly all Americans think improved appliance efficiency is important for personal financial reasons—**lowering their electric bills**; and important for environmental reasons, because reducing the nation's consumption of electricity helps to reduce air pollution and greenhouse gas emissions.

Given increasing public concern and evolving regulatory requirements, we believe that the long-term interests of the Company and its shareholders would be served by its proactive pursuit and implementation of measures to address the high costs to households and the environmental impacts caused by the inefficient consumption of energy by set-top boxes.



BNY MELLON  
ASSET SERVICING

November 15, 2011

To Whom It May Concern

**Re: Comcast Corp.**

**Cusip#: 20030N101**

Dear Madame/Sir:

The purpose of this letter is to provide you with the holdings for the above referenced asset continuously held in custody from November 15, 2010 through today at The Bank of New York Mellon in the name of Cede and Company for the New York City Employees' Retirement System.

The New York City Employees' Retirement System

2,247,027 shares

Please do not hesitate to contact me should you have any specific concerns or questions.

Sincerely,

Richard Blanco  
Vice President



BNY MELLON  
ASSET SERVICING

November 15, 2011

To Whom It May Concern

**Re: Comcast Corp.**

**Cusip#: 20030N101**

Dear Madame/Sir:

The purpose of this letter is to provide you with the holdings for the above referenced asset continuously held in custody from November 15, 2010 through today at The Bank of New York Mellon in the name of Cede and Company for the New York City Teachers' Retirement System.

The New York City Teachers' Retirement System

2,479,257 shares

Please do not hesitate to contact me should you have any specific concerns or questions.

Sincerely,

Richard Blanco  
Vice President



BNY MELLON  
ASSET SERVICING

November 15, 2011

To Whom It May Concern

**Re: Comcast Corp.**

**Cusip#: 20030N101**

Dear Madame/Sir:

The purpose of this letter is to provide you with the holdings for the above referenced asset continuously held in custody from November 15, 2010 through today at The Bank of New York Mellon in the name of Cede and Company for the New York City Police Pension Fund.

The New York City Police Pension Fund

1,395,673 shares

Please do not hesitate to contact me should you have any specific concerns or questions.

Sincerely,

Richard Blanco  
Vice President



BNY MELLON  
ASSET SERVICING

November 15, 2011

To Whom It May Concern

**Re: Comcast Corp.**

**Cusip#: 20030N101**

Dear Madame/Sir:

The purpose of this letter is to provide you with the holdings for the above referenced asset continuously held in custody from November 15, 2010 through today at The Bank of New York Mellon in the name of Cede and Company for the New York City Fire Department Pension Fund.

The New York City Fire Department Pension Fund

434,730 shares

Please do not hesitate to contact me should you have any specific concerns or questions.

Sincerely,

Richard Blanco  
Vice President



BNY MELLON  
ASSET SERVICING

November 15, 2011

To Whom It May Concern

**Re: Comcast Corp.**

**Cusip#: 20030N101**

Dear Madame/Sir:

The purpose of this letter is to provide you with the holdings for the above referenced asset continuously held in custody from November 15, 2010 through today at The Bank of New York Mellon in the name of Cede and Company for the New York City Board of Education Retirement System.

The New York City Board of Education Retirement System

168,270 shares

Please do not hesitate to contact me should you have any specific concerns or questions.

Sincerely,

Richard Blanco  
Vice President

**EXHIBIT B**

**Before the  
DEPARTMENT OF ENERGY  
Washington, DC**

In re

Energy Conservation Program for  
Consumer Products and Certain  
Commercial and Industrial Equipment:  
Proposed Determination of Set-Top Boxes  
and Network Equipment as a Covered  
Consumer Product, Proposed  
Determination

Docket No. EERE-2010-BT-DET-0040  
RIN Number 1904-AC52

**COMMENTS OF  
THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

The National Cable & Telecommunications Association (NCTA)<sup>1</sup> hereby submits its comments in response to the Notice of Proposed Determination (Notice) released by the Department of Energy (the Department) in the above-captioned proceeding.<sup>2</sup>

**INTRODUCTION AND SUMMARY**

Cable operators are embracing energy efficiencies in delivering cable services. The majority of the set-top boxes that cable operators purchase today are compliant with ENERGY STAR Version 2.1 or Version 3. For example, in the first quarter of this year, Comcast alone delivered over four million new ENERGY STAR video set-top boxes and low-wattage digital

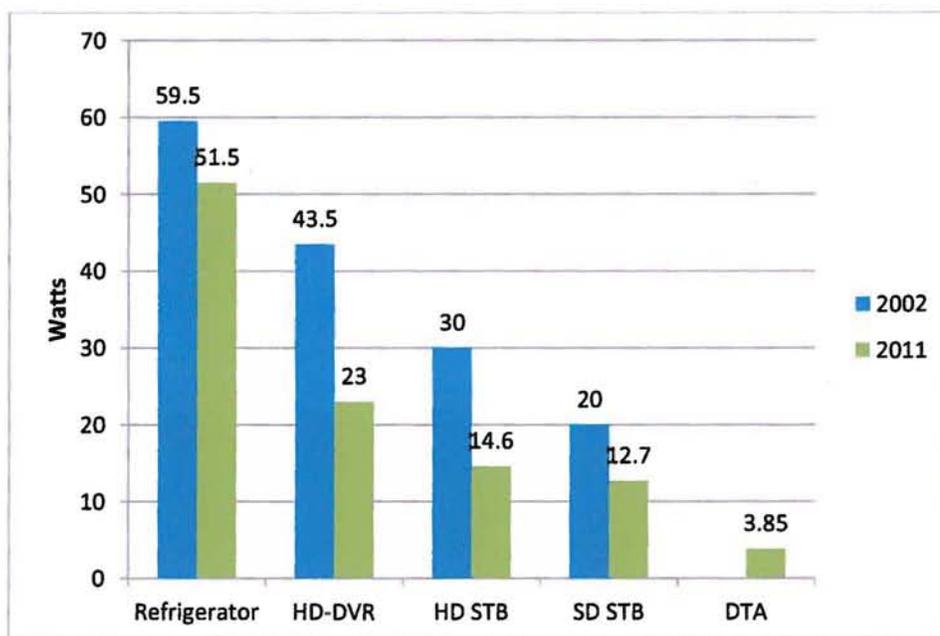
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<sup>1</sup> NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 90 percent of the nation's cable television households and more than 200 cable program networks. The cable industry is the nation's largest provider of broadband service, after investing over \$170 billion since 1996 to build two-way interactive networks with fiber optic technology. Cable companies also provide state-of-the-art competitive voice service to nearly 25 million customers.

<sup>2</sup> See Energy Conservation Program for Consumer Products and Certain Commercial and Industrial Equipment: Proposed Determination of Set-Top Boxes and Network Equipment as a Covered Consumer Product, Proposed Determination, 76 Fed. Reg. 34914 (proposed June 15, 2011) ("Notice"). The time for comments was extended in Notice of extension of public comment period, 76 Fed. Reg. 40285 (July 8, 2011).

transport adapters (“DTAs”) to customers, accounting for almost 95 percent of its video device deployments. All of Time Warner Cable’s 2011 set-top box purchases and deployments have been ENERGY STAR compliant.

Improvements in technology are enabling the development and use of more energy efficient devices. As more cable systems convert to “all digital” platforms, they are able to use more energy efficient all-digital tuners and limited-functionality DTAs. Within the devices themselves, functionalities previously handled with multiple chips have been integrated into better silicon. And by increasing the use of home networking approaches, operators are able to use a single, primary device (such as a digital video recorder (DVR) or gateway device) as the content source for “thin client” home-networked devices, reducing the need to attach full functionality devices to every TV in the home. Even with constraints from Federal Communications Commission (FCC) mandates that increase the energy consumption of set-top boxes, the energy efficiency of set-top boxes has advanced dramatically. Sample models illustrate the clear trend to significantly reduced power consumption.



Set-top boxes now in use by cable operators include a Cisco ENERGY STAR High Definition (HD) digital video recorder (DVR) that consumes 23 Watts in “on” mode and 20 percent less in “standby” mode; a Samsung ENERGY STAR non-DVR HD set-top box that uses less than 15 Watts; a Cisco Standard Definition (SD) set-top box that draws less than 13 Watts; and Pace and Technicolor DTAs that use less than 4 Watts. Today, Comcast is deploying an ENERGY STAR 3.0-qualified Motorola HD-DVR with more processing power and home-networking capabilities than existed in 2002, but which consumes about half of the power used by the previous generations of DVR set-top boxes.<sup>3</sup>

Next generation devices will provide even more energy efficiency. Cable operators are beginning to deliver cable video services via Internet Protocol (IP) to tablets, to new kinds of “smart” digital televisions, and to gaming stations without the need for set-top boxes. “TV Everywhere” delivers video directly from the cloud to devices with Internet browsers. One operator has moved an enhanced program guide from the set-top box to the cloud, and is trialing delivery of all video via IP. Another has moved to a network-based DVR service that allows viewers’ recordings to be stored in the network rather than recorded in individual set-top box hard drives within the customer’s home. Moving such set-top box applications into the network and cloud reduces energy requirements by allowing the processing and storage power of the network to be shared across many consumers. Other operators are developing alternative ways to reduce energy consumption in new devices, such as by spinning down the hard disk drive during inactive periods, and working with hardware and chip vendors to incorporate advanced, silicon-enabled, standby features into next generation products.

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<sup>3</sup> Energy consumption for refrigerators shown in the chart is from Association of Home Appliance Manufacturers shipment-weighted averages in *AHAM Trends in Energy Efficiency*.

The cable industry has embraced these energy conservation approaches because energy efficiencies improve cable's business metrics by increasing the reliability and performance of the devices maintained for delivering services. Cable operators own and maintain tens of millions of these devices in consumer homes. If they fail, it means customer dissatisfaction, and expensive customer service calls and truck rolls. Lower power consumption generally leads to less heat and lower operating temperatures, lower failure rates, and fewer customer service calls. Integrating components onto "systems on a chip" also lower costs and increases our processing power to offer better applications and services in a highly competitive marketplace. Although it is strongly committed to energy conservation, the cable industry has real concerns that regulatory mandates for a standard written yesterday may disable a cable operator from quickly offering tomorrow's innovative applications in the rapidly changing and competitive communications marketplace. In fact, it is this concern over the unintended consequences of regulatory mandates that has resulted in today's admittedly odd situation in which cable operators will buy and deploy ENERGY STAR set-top boxes, but at the same time, are reluctant to become ENERGY STAR partners.

The Department proposes to classify "set-top boxes and network equipment" as covered products under the Energy Policy and Conservation Act (EPCA) -- the first step in a process under which consumer products like refrigerators are regulated under federal energy consumption standards. Under the Department's own EPCA rulemaking requirements, it is not necessary or appropriate to pursue new government standards for set-top boxes and network equipment. Before such standards may be adopted, the Department must find that standard setting is "necessary or appropriate" to carry out the purposes of EPCA and that the energy

consumption of the devices in question exceed prescribed thresholds per household.<sup>4</sup> EPCA standards are to be imposed on products only if the products consume a prescribed amount of energy nationally, and regulatory standards would result in significant energy conservation relative to non-regulatory approaches. The standards themselves must also meet a variety of other tests, such as assuring the continued availability of device performance and functionality, and minimizing adverse impact on manufacturers and consumers.<sup>5</sup> The Department tentatively proposes to embark on this standards-setting process based largely on information compiled in 2007 that has since been outpaced by marketplace developments.

Cable innovation has revolutionized television and delivered choice and savings in voice services. With private capital, the cable industry has fueled tremendous growth in jobs, in energy-saving telecommuting, in telemedicine, in broadband and Internet services, in content and applications, and in new opportunities for future innovators. The industry currently employs energy savings approaches that the 2007 Report underlying the Department's proposal could not have anticipated. The industry is far more likely to achieve both the energy conservation and the innovation that the Administration has been seeking to stimulate through voluntary efforts and the pull of marketplace forces.

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<sup>4</sup> 42 U.S.C. § 6292(b)(1).

<sup>5</sup> 42 U.S.C. § 6292(b)(1) (classification of consumer product as covered must be "necessary or appropriate" and average annual household energy use of product must be likely to exceed 100kWh per year); 42 U.S.C. § 6295(l)(1) (to adopt a standard, average annual household energy use of product must exceed 150 kilowatt-hours per household and national use must exceed 4.2 billion kWh); 42 U.S.C. § 6295(o)(2)(B)(i), 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(1)(i) (benefits must outweigh burdens, accounting for technological feasibility and economic justification); 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(3)(D) (standard not economically justified if would not result in significant energy conservation relative to non-regulatory approaches); 42 U.S.C. §4295(o)(4), 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(1)(ii) (standards not to be adopted if likely to result in the unavailability of any covered product type with performance, reliability, and features generally available at time of standard).

**I. CABLE OPERATORS HAVE BEEN EMBRACING ENERGY EFFICIENCIES IN DELIVERING CABLE SERVICES THROUGH A WIDE VARIETY OF DEVICES**

**A. Cable Operators are Meeting Consumer Demand for Innovative Functionalities**

By necessity, when cable operators offer services which exceed the capability of consumers' television sets, they must offer the technical means for customers to receive the services. For decades, this has been addressed through customer premises equipment like "set-top boxes" purchased by the operator and leased to customers. Set-top boxes initially offered an expanded channel tuning range, a remote control, or optional premium channels scrambled in transport and descrambled in the device. More recently, different devices offer varying innovative features reflecting new consumer demands, including HD resolution; multiple tuners to allow simultaneous watching and recording of multiple channels; on-demand programs available at the touch of a button; digital video recording capability; increased storage capacity; "switched digital" channels that are only delivered over the cable network when a customer tunes to that channel; increased processing power and memory for advanced applications running on the device; multi-room playback and home networking of content from the device to other devices in the home; remote programming of the DVR from a mobile device; 3D video content; and transcoding content from one format to another to allow consumers to view it on a variety of consumer electronics devices.

**B. "Set-Top boxes and Network Equipment" are Very Different Types of Devices with Different Functionalities on Different Networks**

To an outside observer, "set-top boxes" may look alike,<sup>6</sup> but they are a group of diverse devices with varying functionalities connected to different networks designed with a variety of

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<sup>6</sup> The Department's tentative approach is based on an aggregation of very different kinds of devices. The report estimates that the combined energy use of all such devices is 19.55 billion kW hours. Kurt W. Roth, et al.,

capabilities for offering different services. Cable systems typically broadcast a set of linear (pre-scheduled) channels in analog and a set of linear channels in digital, and also deliver additional “switched digital” channels and on-demand programs when selected by the consumer. Some cable systems use a mix of digital and Internet Protocol (“IP”) to deliver only the specific channel(s) or program(s) tuned by the consumer. Cable systems also offer a wide variety of additional applications. These different services and applications require different types of set-top boxes. At the same time, operators must ensure that the customer premises devices are tightly integrated with the headend (source) of the network. Today’s advanced set-top boxes are an integral part of the complete network system. To receive signals from a cable headend supplied by Cisco, the customer needs a Cisco set-top box (or other client device) or Cisco CableCARD.<sup>7</sup> To receive signals from a Motorola headend, the set-top box (or other client device) must be Motorola or have a Motorola CableCARD. Regardless of manufacturer, the devices must work in concert with the entire network system, rather than as stand-alone products. The semiconductor chip processors and interfaces in the device must be able to communicate with the rest of the network system at all times.

There is no single, “standard-issue” set-top box deployed by cable operators today. Far from being standard consumer appliances, different set-top boxes provide widely varying services requiring differing power levels. For example, if a consumer wants to receive high definition (HD) programming, the device deployed in that consumer’s home must have the

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Residential Miscellaneous Electric Loads: Energy Consumption Characterization and Savings Potential at 4-83 – 4-89 (2007) (“Miscellaneous Loads Report”). The Department adds 5.26 billion kW hours from a later report on the energy use of “network equipment” such as modems and routers. Steven Lanzisera, et al., Data Network Equipment Energy Use and Savings Potential in Buildings at 9-172 (2010). This is the basis for the Department’s tentative conclusion that “set-top boxes and network equipment” consumed 24.8 billion kW hours in 2010, or 302 kW hours/year per household. Notice at 34915-16.

<sup>7</sup> Cablevision has instead deployed a new system of downloadable security in which the function of the CableCARD is handled instead through a secure network connection to protected chips in the set-top box. This technology was developed under special waivers granted by the FCC from the mandate to use CableCARDs.

processing power required for full 1080p/60 HD resolution. Likewise, sophisticated devices are required to support 3D TV and 3D graphics. If a consumer wants to record, pause, rewind, or fast-forward, the device will typically include a DVR with multiple tuners so that one can watch one program while simultaneously recording others. As more advanced applications are integrated into cable services, the device requires more processing power (i.e., greater CPU and memory resources). On the other end of the spectrum, the cable industry has also deployed low-wattage digital transport adapters (DTAs) which help customers with analog TVs receive video delivered by all-digital cable systems.<sup>8</sup>

Other potential options available to consumers include “multi-room DVRs,” where a primary DVR can feed content to a “thin client” device and allow a program saved in the living room to be played back in the bedroom. Approaches in development include multi-tuner “gateway” devices with sufficient tuners, processing power, memory and outputs to supply multiple video devices on a home network, and the distribution of services in IP in formats that can be received by many IP-enabled devices. These differences do not reflect mere performance-related features of a single type of device.

The functions and requirements of routers and modems, which the Notice calls “network equipment,” also vary widely. Cable modems are designed to operate in conjunction with a device in the headend (called a “Cable Modem Termination System”) to deliver services that work with the predictable resources inside a computer. Typical residential routers are designed to share that modem with multiple devices in the home. These devices may be similar to set-top boxes, as they connect to a cable operator’s network, but that is where the similarities end. They

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<sup>8</sup> The deployment of DTAs to permit consumers to continue to receive programming after cable’s digital conversion is modeled on the government’s similar approach for preserving the functionality of analog televisions by promoting and subsidizing digital-to-analog boxes to complete the broadcast digital transition.

perform different functions and are designed with capabilities for different services. There is no reason for the Department to include these devices with set-top boxes as part of this proceeding.

Cable operators are now delivering video services to devices without the need for a set-top box. Time Warner Cable and Cablevision are delivering their cable services to iPads, and more innovative solutions are rapidly coming to market. For example, at the 2011 Cable Show (the trade show exhibiting the latest in cable technology), Time Warner Cable delivered live and on-demand video content from the Time Warner Cable headend to a Samsung television without a set-top box, using IP technologies over a managed network. Comcast displayed its Xfinity TV Online application on Apple iOS, offering advanced search capabilities, remote control operation, DVR programming, and thousands of hours of video-on-demand content available for viewing on a tablet device.

Cable operators and programmers also continue to embrace cloud-delivery mechanisms. For example, the largest cable operators offer “TV Everywhere” online services for delivering video to devices with Internet browsers without the need for set-top boxes. Comcast will be trialing the delivery of IP cable services to the MIT university campus. Comcast has also launched its “Spectrum” service in Augusta, Georgia, in which an enhanced program guide is delivered from the cloud rather than residing in the set-top box.

**C. Consumers Expect Their Televisions to be Ready for Viewing and Their Cable-Provided Telephone Service Ready for Calls**

Most critical to the performance of all set-top boxes is the consumer demand that televisions be ready for viewing on command. Delivering on that demand means that the device that serves as the interface between a television and the network is working in the background even when the television is turned off. For example, the typical cable set-top box includes a program guide, supports conditional access and entitlement mechanisms to authorize the viewing

of different premium channels and tiers of service, and is used to receive Emergency Alert System (EAS) messages which are conveyed to the customer. Set-top boxes with DVR functionality are expected to record programming as scheduled by the customer. Like almost every piece of connected electronics, the set-top box contains software that requires updates. To maintain functionality and to meet consumer expectations for instant viewing, the device is in constant contact with the cable system headend. As the Department's key source document explains, "STBs are constantly receiving, transmit, and/or recording service provider signals."<sup>9</sup> They are receiving important software updates and navigation information (such as changes in channel location), populating program guides with the latest programming schedules and descriptions, receiving EAS messages, and receiving and sending other data for diagnostics, to assure that the service delivers the functionality expected and enjoyed by consumers.

Consumers also expect broadband to be "always on," not dialed-up, and 25 million cable voice customers count on their services to be available for outbound and reverse-911 calls. Even if many of the same customers use a cable modem, a router, and a set-top box, these are very different devices delivering very different services.

**D. Cable Operators Have been Embracing Energy Efficiency in the Devices and Services They Provide to Customers**

Cable operators pursue energy efficiencies in delivering cable services, because energy efficiency aligns with the key metrics for the business. Cable operators own and maintain tens of millions of devices in consumer homes. If they fail, it means customer dissatisfaction, expensive customer service calls, and truck rolls. In a marketplace with formidable competitors who are constantly vying with one another for subscribers, cable operators have no choice but to embrace energy efficiencies. Lower power consumption generally means less heat and lower operating

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<sup>9</sup> Miscellaneous Loads Report 4-85.

temperatures for devices, which translates into lower component failure rates and fewer service calls from failed equipment. Likewise, cable operators favor the integration of components onto “systems on a chip” (SoCs) to reduce component count, which means both lower failure rates and lower costs. Operators also benefit from the increased processing horsepower in these generational chip changes, which allows them to run better applications and user interfaces for consumers. Lower power usage is well aligned with the key metrics of the cable business: better total cost of ownership, fewer trouble calls, and better performance in a competitive marketplace.

The effects of these natural business and market incentives are evident, but have not been recognized in the Notice or in the Department’s key source documents. The majority of the set-top boxes that cable operators purchase today are compliant with ENERGY STAR Version 2 or Version 3. For example, in the first quarter of this year, Comcast alone delivered over four million new ENERGY STAR video set-top boxes and DTAs to customers—95 percent of its deployments.<sup>10</sup> All of Time Warner Cable’s 2011 purchases and deployments have been ENERGY STAR compliant.

Energy efficiency designs have advanced dramatically. In 2002, an SD non-DVR consumed about 20 Watts; an HD non-DVR consumed about 30 Watts, and an HD DVR exceeded 40 Watts. Set-top boxes now in use by cable operators include a Cisco ENERGY STAR HD DVR that consumes 23 Watts in “on” mode and 20 percent less in a reduced energy “standby” mode; a Samsung ENERGY STAR non-DVR HD set-top box that uses less than 15 Watts; a Cisco SD set-top box that draws less than 13 watts; and Pace and Technicolor DTAs that use less than 4 Watts. Today, Comcast is deploying an ENERGY STAR 3.0-qualified Motorola HD-DVR with more processing power and home-networking capabilities than existed

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<sup>10</sup> Unfortunately, under EPA requirements, ENERGY STAR compliant devices may not be labeled as such unless the service provider becomes an ENERGY STAR partner. As discussed below, most cable operators have been reluctant to become ENERGY STAR partners because of issues still awaiting resolution.

in 2002, but which consumes about half of the power used by previous generations of DVR boxes.

Increasingly more functionalities that were previously handled with multiple chips have been integrated into SoCs. The evolution of silicon also contributes to lower power operation. For example, more recent semiconductors fabricated using a 65 nanometer process is more power-efficient than semiconductors fabricated using an earlier 90 nanometer process. As more systems complete their conversion to “all digital” and remove analog channels from the cable network, they are further reducing energy requirements by using devices with no analog tuners and by deploying limited-functionality, low-wattage DTAs to consumers. By increasing use of home networking approaches such as MoCA, operators are able to use a single, primary device (such as a DVR or gateway) as the content source for “thin client” home-networked devices, reducing the need for full functionality devices for every television set in the home. Cablevision has adopted a network-based DVR service, in which viewers’ recordings are made individually and stored in the network for later playback, rather than recorded in individual devices at the customer’s home. Moving traditional set-top box applications like DVR recording from the set-top box to the network level allows the processing and storage power of the network to be shared across many consumers, enabling energy consumption to be more efficiently managed at scale, rather than in individual devices.

The energy efficiency of next generation devices is even more promising. Cable operators and programmers continue to embrace cloud-delivery mechanisms, which can share processing and storage power in the network across many consumers. Operators are also developing new ways to reduce energy consumption in new devices, such as by spinning down the hard disk drive during inactive periods, using IP delivery methods, and working with chip

vendors to incorporate standby features and sleep modes into next generation products that can function with their respective networks.

**E. Government Mandates Have Increased the Energy Consumption of Set-Top Boxes**

Improvements in energy efficiency in the cable industry are progressing *despite* government mandates that increase the energy consumption of set-top boxes. Cable industry set-top boxes are regulated by the FCC. The FCC required the redesign of most leased set-top boxes to split their functionalities between a removable CableCARD (which handles decryption) and the navigation device paired with the CableCARD. This requirement increases energy consumption with no additional functionality. The EPA provides an allowance of 15kWh/year in energy consumption to account for the presence of a CableCARD. As of the third quarter of this year, there over 30 million leased set-top boxes with CableCARDS, for an aggregate annual allowance of 450 million kWh/year.<sup>11</sup> Other FCC requirements, such as that all HD set-top boxes include certain video outputs in support of home networking whether they are used or not, add to the energy consumption. Retail cable-ready boxes must also include analog tuners (although the FCC recently granted a limited waiver to one manufacturer). A recent FCC proposal could further hamper cable operators' energy efficiency efforts. Under the "AllVid" proposal, the FCC could require cable operators and other multichannel video providers (e.g., DirecTV, AT&T, etc.) to provide their customers with an "AllVid" adapter (with its own electrical housing, power supply, and electronics) to be installed in conjunction with traditional cable boxes (with their own electrical housing, power supply, and electronics). These kinds of

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<sup>11</sup> Letter from Neal Goldberg, Vice President & General Counsel, NCTA, to Marlene H. Dortch, Secretary, FCC at 1 (Sept. 30, 2011) (filed in FCC CS Docket No. 97-80).

regulatory technology mandates constrain the design choices for cable operators and their suppliers as they seek to reduce energy consumption.

In short, despite FCC regulatory mandates that consume more energy, business and market incentives are driving the cable industry to significantly reduce energy usage.

## **II. IT IS NOT NECESSARY OR APPROPRIATE TO TREAT “SET-TOP BOXES AND NETWORK EQUIPMENT” AS COVERED PRODUCTS**

In evaluating whether to pursue prescribing energy efficiency standards for “set-top boxes and network equipment,” the Department must determine whether it is necessary or appropriate to treat these devices as covered products and subject them to the Department standards-setting process for standard consumer appliances. In doing so, the Department must assure that contemplated standards preserve the availability of the performance characteristics, reliability, and features of the devices; that the type of device that would be subject to such standards meets the thresholds for Department intervention; and that such standards are superior to energy saving measures that can be achieved through non-regulatory means. By any of these measures, the Department should not embark upon this regulatory path.

### **A. A Standard Consumer Appliance Approach Should not be Applied to a Suite of Dramatically Different Devices**

#### **1. The Department should not assume energy savings potential from the wide variation in energy use by different types of “set-top boxes” and “network equipment” without a loss of device functionality**

Preserving device performance, reliability, and functionality is critical to Department standard-setting for covered products. Unfortunately, the proposal risks those very features by starting from the premise that all “set-top boxes and network equipment” may be lumped together as a single “type” of standard consumer appliance with significant variation in energy consumption. As explained above, a better starting point would be to recognize that while such devices may all be contained in electrical housing, draw power, and feed a signal, they are

diverse devices with varying functionalities connected to different networks designed with capabilities for different services. The Department cites a possible “correlation” that modems, routers, and set-top boxes may all be present in the same household;<sup>12</sup> but this is not equivalence, any more than a DVD player and a game console can be “correlated” as equivalent to TVs in the same home. These devices naturally have different energy consumption characteristics that should not be lumped together as a single type of device susceptible to lowest common denominator energy standards.<sup>13</sup>

Because these diverse devices have different energy signatures for different functionalities, the Department should not assume that because some set-top boxes consume less energy than others, that there is an energy savings potential with regulation. As the Miscellaneous Loads Report explains, “[t]he energy savings potential for STBs is not well understood. Even when examining STBs that fit within one of the general categories that we have defined (i.e., digital cable, HD digital cable, etc.), there may be multiple levels of functionality. Therefore, “best in class” energy savings may really be a result of a decrease in product functionality.”<sup>14</sup> That is, the Report cautions that potential energy “savings” might actually come only with loss of the very functionality which the Department is charged with

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<sup>12</sup> Notice at 34915.

<sup>13</sup> Set-top boxes also vary with the video distribution technology used by the network. For example, direct broadcast satellite systems like DirecTV and DISH have constraints on satellite transmission capacity and the availability of return signaling, so their customer premises devices will often have large storage capacities to store popular movie titles that customers can then “order” for instant on-demand viewing. Satellite, digital cable, and IP systems like U-Verse all use different modulation techniques for transport, and their associated set-top boxes vary depending on the network they are designed to serve. This may be one reason that both the average and “best in class” *satellite* HD DVR was reported to consume dramatically more power than the *cable* HD DVR. Miscellaneous Loads Report Table 4-84, 4-86.

<sup>14</sup> Miscellaneous Loads Report 4-87.

preserving.<sup>15</sup> “Again, it is unknown whether the energy savings are a result of a more efficient product or from a loss of functionality.”<sup>16</sup>

**2. Consumers expect their televisions, modems and voice services to be functional and ready**

As we have explained, to meet consumer demand that televisions and cable services will be ready for viewing on command, set-top boxes must receive important software updates, navigation information, and other critical data even when a customer is not actively watching television. Consumers likewise count on broadband and voice services to be “always on.” As the Miscellaneous Loads Report noted, “[t]he EPA has been unable to define an ENERGY STAR off mode standard for STBs that does not restrict their functionality.”<sup>17</sup> As a consequence, adopting approaches geared toward standard consumer appliances would compromise device performance, reliability, and functionality.

**B. Department and NRDC Energy Consumption Estimates are not Based on Typical Households**

The Department’s energy consumption estimates are further flawed because they are not based on typical households. The Department relies almost entirely on estimates provided by the 2007 Miscellaneous Loads Report. Indeed, it reiterated the Report’s conclusion that 19.55 billion kWh/year is attributable to cable and satellite set-top boxes combined, and then added 5.26 billion kWh/year for cable and DSL modems and routers from a report on Energy Efficiency in Buildings. Dividing the total of 24.8 billion kWh/year by its estimate of 82 million

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<sup>15</sup> Under Department requirements, standards are not to be adopted if they are likely to result in the unavailability of any covered product type with performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as products generally available in the U.S. at the time. 42 U.S.C. § 6295(o)(4); 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(1)(ii). The Department also has a policy of preserving consumer utility and avoiding adverse impacts on a significant subgroup of consumers (such as consumers of high end DVRs or multifunction devices), 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(3)(i)(E) & (e)(3)(i)(G).

<sup>16</sup> Miscellaneous Loads Report 4-87.

<sup>17</sup> *Id.*

households with a set-top box, it presented a figure of 302 kWh/year per household. Almost simultaneously, the Natural Resources Defense Council (NRDC) publicized its own estimate of 27 billion kWh/year for set-top boxes, based on what it described as a “typical” household with one HD DVR and a second HD set-top box.

These figures are problematic because these are not typical cable households. According to industry estimates, 31 percent of cable households have DVRs. Under the approach used by the Miscellaneous Loads Report, the DVR is a device that should not be treated as typical.<sup>18</sup> Today, a “typical home” is increasingly likely to have a DTA, a limited functionality device which consumes about a quarter of the power draw of the digital set-top box included in the Report. Comcast alone has deployed over 20 million DTAs that operate at very reduced power.<sup>19</sup> DTAs did not exist when the Report was prepared and were omitted in the current NRDC estimate. In addition, non-DVR HD set-top boxes are available today with far less than the 22 watts reported in 2007.<sup>20</sup>

NRDC’s recent suggestion that set-top boxes consume more power than a “typical” refrigerator is also erroneous. The 21 cubic foot refrigerator referenced in the NRDC report consumes 1.5 times the amount of energy consumed by the HD-DVR referenced in the report. However, the recent model HD-DVR referenced in the NRDC report is 70 percent less efficient than a current model from Pace, the RNG200N HD-DVR. As a result, the aforementioned 21 cubic foot refrigerator consumes 2.5 times the amount of energy consumed by the current model Pace DVR. One can buy small refrigerators for beverage cans that consume 175 kWh/year, but that is far from a typical family refrigerator. In contrast, the energy use that NRDC attributed to

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<sup>18</sup> For comparison, the Report treated a median home as having only PCs, and not notebooks, when only 30% of households owned notebooks. Miscellaneous Loads Report 4-28.

<sup>19</sup> Some widely deployed models by Pace and Technicolor consume less than 4 Watts of power.

<sup>20</sup> For example, the Pace RNG110N uses 12.5 Watts in on mode.

a set-top box is less than the energy used by two 60 Watt light bulbs timed to go on at sunset and off at 11 pm. The Pace RNG110 HD set-top box consumes about one-tenth of the energy of the game consoles that consumers are increasingly using as video receivers. By comparison, if left powered on, the Xbox 360 draws approximately 1,000 kWh/year, and the PS3 draws 1,300 kWh/year.<sup>21</sup>

It is understood that the Department put forth the Miscellaneous Loads Report as a starting point, and that it has specifically disclaimed any intention to treat the Report as “influential scientific information” that would otherwise call for rigorous peer review.<sup>22</sup> In any event, the Department does not have a reliable basis for making the critical decision to pursue a consumer appliance standards setting process applicable to the wide variety of set-top boxes.

**C. Energy Efficiency Should be Approached in a Manner that Provides Ample Room for Innovation**

The cable industry is strongly committed to energy conservation. As noted above, such a strategy aligns with our business incentives by reducing total costs of ownership, reducing service calls, and improving our performance as competitors in a market with myriad video and communications service choices. Our industry has been embracing far greater energy efficiencies in delivering cable services than is recognized in the Notice. Cable operators have been deploying ENERGY STAR set-top boxes and utilizing innovative energy efficient technologies that the 2007 Report could not have anticipated—going all digital, utilizing DTAs, and delivering services using network-based, cloud-based, and IP-based approaches that

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<sup>21</sup> See ENERGY STAR, [http://www.energystar.gov/index.cfm?c=products.pr\\_save\\_energy\\_at\\_home](http://www.energystar.gov/index.cfm?c=products.pr_save_energy_at_home) (“Many of today's video game consoles are left on all the time. If left on all the time, the Xbox 360 draws approximately 1,000 kWh/yr, while the PS3 draws 1,300 kWh/yr.”).

<sup>22</sup> As the Department has explained, “Consistent with the OMB guidelines, DOE’s [Data Quality Act] guidelines apply to third party information that is either relied on or endorsed by DOE.” Final Report Implementing Office of Management and Budget Information Dissemination Quality Guidelines, 67 Fed. Reg. 62446, 62448 (Oct. 7, 2002).

revolutionize set-top boxes or eliminate them entirely. Many of our devices are designed to communicate with smart thermostats, a feature that can offer consumers even more energy savings. In addition, our industry is actively engaged in energy conservation forums addressing other aspects of our operations, such as the Smart Energy Management Initiative of the Society of Cable Telecommunications Engineers (SCTE). These efforts will continue.

Regulatory approaches to energy conservation must not become an accidental basis for impeding innovation or obstructing consumer expectations in a dynamic and competitive marketplace. The cable industry was born as an innovative challenge to the paradigm of how television programming was financed and delivered. Cable innovators and investors have continuously poured creativity and private investment into ever more creative technologies. This has fueled tremendous growth in jobs, in energy-saving telecommuting, in telemedicine, in broadband and Internet services, in choice and savings in voice services, in content and applications, and in new opportunities for future innovators. It has led others to invest in competing digital distribution platforms – from satellite and telco TV to “over the top” video providers riding on personal computers, gaming stations, Internet devices, and retail televisions. Innovation by one provider spurs competitive responses by others, fueling a virtuous cycle of competition, innovation, and consumer choice. The Administration has been seeking to stimulate this kind of innovation, particularly innovation funded by private capital. Maintaining this cycle of innovation could be jeopardized by applying a top-down standardized consumer appliance model to a suite of wildly different devices that are rapidly changing and providing millions of consumers with beneficial services.

In fact, the concern about unintended consequences of regulatory mandates has led to today’s odd situation in which cable operators will buy ENERGY STAR set-top boxes but have

been reluctant to become ENERGY STAR partners. Cable operators face rapidly rising and unpredictable consumer demands. Yesterday, we delivered video to televisions. Today, social networks and video chat have migrated to TV; cable applications download to tablets not in our control; and one can foresee “app stores” on TVs or multifunction devices, where third parties may draw resources and energy not anticipated by a device manufacturer or a service provider. There is understandable concern that a “good actor” who agrees to a standard written yesterday may be disabled from quickly offering tomorrow’s application, because rules and energy allowances may not keep pace. Moreover, rules established in the regulatory arena, rather than business forums, can become decoupled from practical realities. For example, when ENERGY STAR version 3 requirements took effect September 1, 2011, EPA removed dozens of ENERGY STAR devices (from Motorola, Pace, EchoStar, Panasonic, TiVo and others) from ENERGY STAR status, putting in jeopardy the status of many of EPA’s service partners who have been buying compliant equipment. Version 4 requirements are scheduled to take effect July 1, 2013, far more rapidly than the product development, ordering, and acquisition cycle. These concerns have made cable operators reluctant to become ENERGY STAR partners.

The same concerns apply to standards adopted by the Department. There is a high likelihood that by the time testing protocols and standards would be adopted for the many different devices under consideration, they will be out of date and not conducive to updates that can keep pace with the changing technology for delivering video and the vast array of services that consumers expect. Against this record, the Department lacks the basis for projecting an opportunity for significant energy conservation relative to non-regulatory approaches, as is required under the rules for appliance standards-setting.<sup>23</sup>

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<sup>23</sup> 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(3)(i)(D).

Moreover, the Administration has committed to regulatory reform. It seeks to assure that regulations always consider costs and reduce burdens for American businesses and consumers, promote freedom of choice, and are driven by real science. The Department has announced its own commitment to meet this Executive Order, including retrospectively reforming its consumer appliance testing and certification programs to include more flexibility in determining energy efficiency.<sup>24</sup> Rather than imposing a new top-down government energy efficiency prescription, the Department should continue to embrace the market-driven, innovation-inducing environment that is already producing energy savings.

To prescribe energy efficiency standards for “set-top boxes and network equipment” as though they were standard consumer appliances risks derailing cable’s long history of innovation and its demonstrated creativity in conserving energy. The cable industry is far more likely to achieve the dual goals of energy conservation and delivery of innovative services and devices through natural business drivers, voluntary efforts, and the pull of market forces in promoting product efficiency, usage, and related characteristics.<sup>25</sup> Under the Department’s standards setting criteria, the benefits of regulation do not exceed the burdens, and it is not necessary or appropriate to treat these devices as covered products.<sup>26</sup>

### **III. RECOMMENDED CHANGES IN APPROACH**

If the Department determines that it must pursue a regulatory regime applicable to “set-top boxes and network equipment,” three changes in approach are necessary to improve the chances of serving both the ends of EPCA and the demands of innovation.

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<sup>24</sup> Department of Energy, Final Plan for Retrospective Analysis of Existing Rules (Aug. 23, 2011).

<sup>25</sup> Cf. 10 C.F.R. Ch. 11, Appendix A to Subpart C of Part 430—Procedures, Interpretations and Policies for Consideration of New or Revised Energy Conservation Standards For Consumer Products, Objectives, Objective 1(e); *id.* at 4, Process for Developing Efficiency Standards and Factors to be Considered, Factor (d)(5)(viii).

<sup>26</sup> 42 U.S.C. § 6295(o)(2)(B)(i). 10 C.F.R. §430 Subpart C Appendix A Part 5 (e)(1)(i).

**A. Standards Must be Commensurate with the Required Functions of Different Devices**

First, the Department should draw a key lesson from ENERGY STAR, and not treat diverse pieces of equipment the same. There may be a common denominator function – such as the reception of video from a distribution network – which brings a device under energy management standards in the first place. But with so many functionalities layered on top of video reception, there needs to be significantly different standards commensurate with the required functions of different devices.

**B. The Department Should Provide Maximum Flexibility for Meeting Energy Efficiency Expectations**

Second, the Department should provide maximum flexibility for manufacturers and service providers to meet efficiency standards. For example, while the industry is currently working with set-top box hardware and chip vendors on various sleep modes, it is far more sensible to set a total energy allowance, such as EPA’s Typical Energy Consumption (TEC), and allow parties to meet it with whatever design works. The result may involve radically new low energy chip designs or other approaches, rather than a particular design feature or sleep mode one can only envision today.

**C. Definitions Must Account for Rapid Changes in Video Distribution Devices**

Third, there are rapid changes in video distribution which should be taken into account in the Department’s definitions and the scope of any standards. More video is being distributed through a wide variety of networks with new kinds of terminal devices that may or may not be “set-top boxes and network equipment” as set forth in the Notice. As drafted, the definitions would seem to embrace large portions of IP and other network and commercial systems, when the Department was presumably trying to address some set of devices in the home. The definitions must initially be refined to exclude network and commercial equipment and to focus

on the intended devices. The definitions must also be crafted to leave ample room for innovation in network termination equipment that is designed to serve multiple devices in the home and therefore requires more energy than devices designed for more limited uses.

In addition, the definitions would need to be crafted to ensure technological neutrality, so that the Department does not inadvertently pick technology winners and losers. In today's marketplace, one provider's cable services are delivered to the Xbox. Providers at the edge of the Internet use adaptive bit-rate technology to deliver video to customers' broadband-connected PCs, Macs, tablets, and smart phones. Other providers like Roku or Boxee deliver video to dedicated Internet devices. New platforms have emerged around Internet-connected TVs and Blu-ray players that have become video platforms, such as Samsung Smart Hub, LG Smart TV, Panasonic VIERA Cast™, and Sony Bravia® Internet Video. These platforms now offer video content from Netflix, Amazon Instant, Hulu Plus™, Vudu™, Cinema Now, Blockbuster, Qriosity, Crackle™, YouTube, and MLB.TV. Sony and Samsung have also demonstrated their ability to add video directly from Comcast and Time Warner Cable on such platforms. In addition, LG has demonstrated how the smart TV platform it launched with overseas cable operators will now be available in the United States.

In this environment, if "cable" "set-top boxes" are to be subject to energy efficiency standards, then the definitions must be updated to cover any video reception device, whether video reception is the primary or secondary purpose of a multifunction device. The Department should ensure that it does not create discriminatory classifications of video devices. If the Department moves forward in the standards process, it will need to address video devices such as gaming stations, house-mounted optical interface units, devices that receive IP packets of video, and Internet video boxes offered by Roku or Google, regardless of what other functionalities

they might have. If different kinds of video devices have different energy needs for different functionalities, as they do, then all providers should have access to different energy allowances to meet those functionalities.

### CONCLUSION

For the reasons stated herein, it is not necessary or appropriate to treat set-top boxes and network equipment as covered products under EPCA.

Respectfully submitted,

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## NEWS RELEASE

FOR IMMEDIATE RELEASE  
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### **U.S. Cable Industry Launches New Energy Efficiency Initiative**

*CableLabs® - Energy Lab Facility Dedicated to Improving Energy Conservation*

Washington, D.C. and Louisville, CO – The U.S. cable industry today announced a new initiative dedicated to improving the energy efficiency of consumer set-top boxes and other devices and developing advanced cable-enabled services designed to promote innovative consumer energy conservation measures. A key element of the initiative is the “CableLabs® - Energy Lab,” a new facility within the cable industry’s R&D consortium that will concentrate exclusively on improving energy efficiency, the National Cable & Telecommunications Association (NCTA) and CableLabs® announced today.

The energy initiative will promote the development, testing, and deployment of technologies that will enable cable subscribers to reduce and manage energy consumption in the home, including establishing new requirements for both cable video devices and network support systems. Among other things, these specifications will enable the manufacturing of devices that have “sleep” capabilities to reduce power consumption when subscribers are not actively watching television. After successful field testing of set-top boxes with next generation power management semiconductors, cable operators will begin promoting the deployment of these devices as part of their ongoing efforts to provide functional, reliable and energy efficient services.

The resulting increased energy efficiency for new model set-top boxes will improve on the strides in recent years by cable operators to utilize devices with dramatically lower energy consumption than previous generations of equipment. In addition, cable operators providing service to approximately 85 percent of U.S. cable customers have committed to ensure that by the end of 2013 at least 90 percent of all new set-top boxes they purchase and deploy will be ENERGY STAR 3.0 devices.

U.S. Senator Dianne Feinstein (D-CA) – who in a September letter to cable and other video providers challenged the industry to develop more energy efficient devices – applauded the initiative: “I am pleased the cable industry was responsive to my request that it work on deploying energy efficient cable boxes,” said Feinstein. “I plan to monitor the progress of this

initiative closely. Moving toward cable boxes with 'light-sleep' and 'deep-sleep' technology is an important victory for American consumers who stand to save substantially on their utility bills."

"This important energy initiative will build upon the industry's exemplary record of improving the energy efficiency of successive generations of video devices and services without government intervention, and more importantly it will chart our energy conservation course for the future," said Michael Powell, NCTA President & CEO. "In the hyper-competitive video marketplace, delivering fully functional, reliable and energy efficient equipment is critical to our industry's success, and it's good for consumers. Offering energy efficient devices builds on the cable's industry's imperative to deliver innovation throughout our entire consumer offering."

The CableLabs® - Energy Lab will leverage the expertise and capabilities of CableLabs to build industry consensus on projects that will enhance current energy conservation efforts. The CableLabs® - Energy Lab will:

- Design and maintain a consistent and accurate energy tracking program for measuring and reporting energy consumption and efficiency improvements of new set-top boxes. Procedures for testing and advancing the energy efficiency of set-top boxes and energy conserving software will also be established.
- Serve as a testing and development facility for designers of energy efficient software and hardware.
- Create energy efficiency specifications for semiconductor and hardware suppliers and the network operations systems that support cable devices.
- Assist in developing applications and products that will help consumers manage their overall residential energy consumption.
- Showcase and demonstrate current and future energy savings products and power monitoring capabilities.

"CableLabs is pleased to play a central role in the cable industry's new energy conservation initiatives. The CableLabs – Energy Lab demonstrates how the cable industry recognizes its opportunity to reduce the energy consumption of devices that our customers use to access cable services, and takes full advantage of cable technology to enable consumers to manage energy consumption throughout the home." said Paul Liao, CableLabs President & CEO.

The CableLabs® - Energy Lab initiative will develop collaborative projects with universities and other innovators to promote and showcase the latest in energy management technologies that are enabled by high-speed cable networks, and it is expected to be fully functional by the first quarter of 2012.

Cable operators and other multichannel video providers purchase and maintain tens of millions of video devices that are used in consumer homes. Today's fully functional interactive set-top boxes are mini-computers that work as highly integrated components of complex networks. While consumer demand for interactive video services has fueled the need for increasingly sophisticated and more powerful devices, the cable industry has both improved the

energy efficiency of set-top boxes and launched new methods of delivering cable services using network-based, cloud-based, and IP-based approaches that revolutionize set-top boxes or eliminate them entirely.

Some of the cable industry's efforts to improve energy efficiency include:

- The vast majority of the set-top boxes purchased by cable operators are ENERGY STAR qualified, as evidenced by recent deployments of the two largest cable operators. In the first quarter of 2011, 95 percent of Comcast's deployments and 100 percent of Time Warner Cable's devices were ENERGY STAR devices.
- Utilization of ENERGY STAR 3.0-qualified high-definition DVRs that consume less than half of the energy but provide more processing power and home-networking capabilities than the 40+ Watt HD DVRs introduced ten years ago.
- In cable markets that have converted to all digital systems, operators are providing customers with small digital transport adapters (DTAs) that use less than four Watts.
- Introduction of new services that decrease the home's overall energy profile such as: digital-only tuners; home networking and whole-home DVR; network- and cloud-based delivery that allows the processing and storage power of the network to be shared across many consumers; and video services delivered via Internet Protocol (IP) directly to tablets and gaming stations without the need for a set-top box.

NCTA and CableLabs will also continue to collaborate with government, industry, and research organizations to develop approaches and share best practices which can lead to further energy improvements.

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