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NCTA, CTA and CCTA Comments

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**BEFORE THE
CALIFORNIA ENERGY COMMISSION**

In the matter of:

Phase 2 Appliance Efficiency Regulations &
Roadmaps

Docket No. 17-AAER-11
Set-Top Boxes

Docket No. 17-AAER-12
Low-Power Mode & Power Factor

COMMENTS OF

**THE CALIFORNIA CABLE & TELECOMMUNICATIONS ASSOCIATION
NCTA – THE INTERNET & TELEVISION ASSOCIATION, AND
THE CONSUMER TECHNOLOGY ASSOCIATION**

The California Cable & Telecommunications Association (“CCTA”),¹ NCTA – The Internet & Television Association,² and the Consumer Technology Association (“CTA”)³ (together, the “Associations”) respectfully submit these comments in response to the Commission’s Invitation to Participate Phase 2 Pre-Rulemaking. As demonstrated below, a roadmap toward regulation of set-top boxes and small network equipment is unnecessary because the Voluntary Agreements already governing these devices are accomplishing the objectives of the Warren-Alquist Act and promoting the interests of consumers far more successfully than could regulation. The parties to those agreements have notified the Commission in a separate joint letter that they are working to extend them beyond their current expiration dates and would be pleased to confer with and update the Commission to assure that the interests of California consumers and the goals of energy efficiency continue to be served in a transparent and effective manner.

¹ CCTA is the nation’s largest state cable television association, with its members serving more than 5 million video subscribers, 6.4 million broadband subscribers, and 3.4 million competitive telephone service subscribers. The cable industry has invested more than \$36 billion in California since 1996 to build interactive broadband networks that are available to 98 percent of all California households. The cable industry in California employs more than 65,000 people, contributes \$850 million in taxes and fees, and supports more than 212,000 workers in California alone.

² NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving approximately 85 percent of the nation’s cable television households, more than 200 cable program networks, and others associated with the cable industry.

³ The Consumer Technology Association (CTA)TM is the trade association representing the \$292 billion U.S. consumer technology industry, which supports more than 15 million U.S. jobs. CTA’s membership includes more than 2,200 companies, 80 percent of which are small businesses and startups.

I. California Consumers and Energy Efficiency are Best Served by Continued Reliance on the Proven-Effective Industry Voluntary Agreement

In late 2013, NCTA, CTA, the Natural Resources Defense Council (NRDC), the American Council for an Energy-Efficient Economy (ACEEE), and the Appliance Standards Awareness Project (ASAP) reached a historic “Voluntary Agreement” with pay-TV service providers representing 92% of the residential video market and major manufacturers to improve the energy efficiency of set-top boxes.⁴ The agreement established rigorous new energy efficiency standards that an independent auditor (D+R International, a well-known and respected firm with energy-efficiency expertise) found had already by the end of 2015 saved consumers nearly \$1.2 billion in energy costs and avoided 6.5 million metric tons of CO₂ emissions – the equivalent of the energy used by all of the homes in both San Francisco and Washington, DC combined for one year. Savings are projected to increase to nearly \$1 billion in 2016, and more than \$1 billion annually with full implementation of even more rigorous standards that became applicable this year. While the reporting under the Voluntary Agreements does not track deployments or savings by state, it is reasonable to assume that California savings represent the state’s one-eighth share of the national population and the pay-TV market. The Associations would be pleased to continue to report to the Commission on the progress of the growing energy savings under Voluntary Agreement, which make any separate roadmap or tracking unnecessary.

The Voluntary Agreement was hailed by then U.S. Energy Secretary Ernest Moniz as “a collaborative approach among the Energy Department, the pay-TV industry and energy efficiency groups” that “will save families money by saving energy, while delivering high quality appliances for consumers that keep pace with technological innovation.”⁵ Senator Dianne Feinstein praised the agreement as “a big win for nearly every American” because regulations could not have produced as much savings as quickly.⁶ The Voluntary Agreement was named “Project of the Year” by *Environmental Leader*, a leading daily trade publication covering energy, environmental and sustainability news.

A major emphasis of the Voluntary Agreement is transparency so that consumers, utilities, regulators and other stakeholders can not only view but also verify D+R’s reports. Information about the energy usage and characteristics of every new model deployed by the signatories, all of the annual reports and annual audit reports, and tables of the allowances are

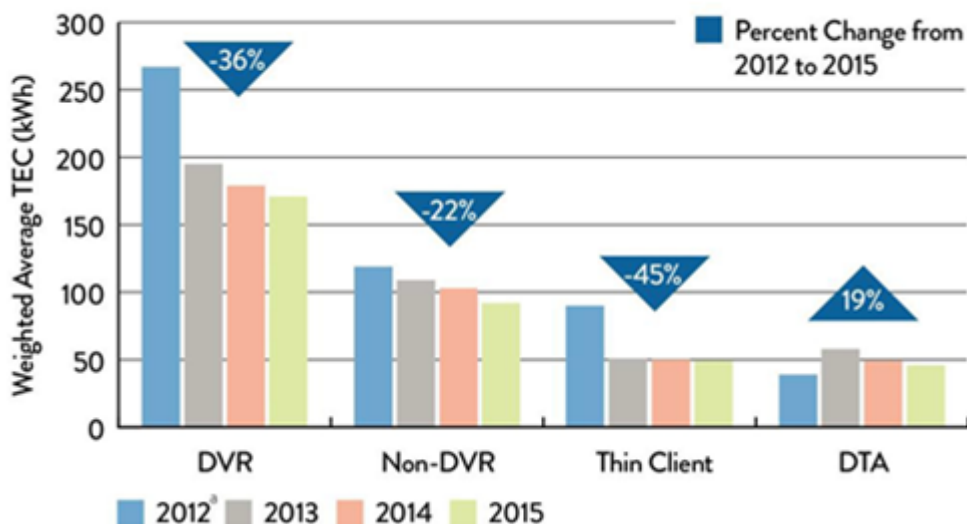
⁴ Signatories of the Voluntary Agreement for Ongoing Improvements in the Energy Efficiency of Set-Top Boxes are energy-efficiency advocates NRDC, ACEEE, and ASAP, service providers AT&T/DIRECTV, Comcast, Charter (which in 2016 acquired signatories Time Warner Cable and Bright House Networks), DISH, Verizon, Cox, Cablevision, and CenturyLink, and major manufacturers ARRIS (including the set-top box businesses of original signatories Motorola and Pace, which it since acquired), Technicolor (which acquired the set-top box business of original signatory Cisco), and EchoStar Technologies.

⁵ U.S. Department of Energy, ENERGY.GOV, U.S. Energy Department, Pay-Television Industry and Energy Efficiency Groups Announce Set-Top Box Energy Conservation Agreement; Will Cut Energy Use for 90 Million U.S. Households, Save Consumers Billions (Dec. 23, 2013), available at <http://energy.gov/articles/us-energy-department-pay-television-industry-and-energy-efficiency-groups-announce-set-top>.

⁶ *Id.*

readily available at www.energy-efficiency.us. For consumers, the page includes user-friendly links directly to the model information for their service provider.

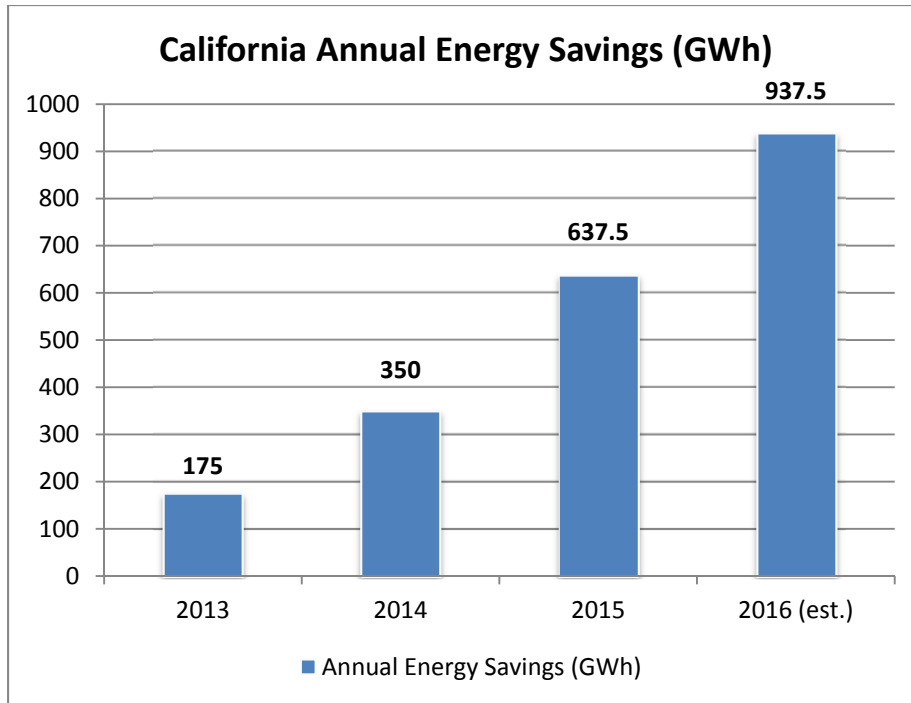
The service provider signatories of the Voluntary Agreement each committed that 90% of their annual purchases of new set-top boxes would meet the energy standards of ENERGY STAR 3.0, which had been designed by the U.S. EPA to be achievable only by the top one-quarter most efficient devices on the market. By 2015, D+R found that 99.5% of service provider purchases met these standards.⁷ Beginning in 2017, the energy standards have been raised to a new set of “Tier 2” allowances developed with NRDC and ACEEE that on average are approximately 20% more efficient than ENERGY STAR 3.0. Because service providers and manufacturers have been continuously working to reach these even more rigorous Tier 2 standards, the savings under the Voluntary Agreement have been increasing each year. This progress has resulted in impressive reductions in energy consumption by new set-top box models, even as the functionality offered to consumers has continued to increase:⁸



Because these savings are cumulative as a higher and higher percentage of devices in the field are more energy-efficient, annual energy savings have more than quintupled since 2013. The following chart estimates the energy savings in California under the Set-Top Box agreement, based upon a 12% share of the preliminary estimated data for 2016 savings that the Associations expect will be confirmed by D+R’s report scheduled to be released this summer:

⁷ D+R International, 2015 Set-Top Box Annual Report at 12.

⁸ D+R International, 2015 Set-Top Box Annual Report at 4. D+R noted that DTA power likely increased from 2012 to 2013 due to the increased prevalence of DTAs with high-definition tuners and advanced video processing (AVP) capability, but their average power has decreased each year since and virtually all of the DTAs deployed in the past three years by the signatory service providers have met the ENERGY STAR Version 3.0 efficiency standards. *Id.*



The national cumulative savings of nearly 17 TWh under the Voluntary Agreement have reduced consumers’ energy bills by more than \$2 billion and reduced greenhouse gas emissions by the equivalent of removing approximately 2.5 million cars from the road for an entire year.⁹

The savings through 2015 have been verified by multiple levels of independent review:

- D+R vets each service provider’s report and conducts a full audit of at least one randomly-selected service provider each year.
- Annual field testing of set-top boxes in operation in customer homes verifies that customers are actually realizing the energy savings calculated by D+R in its reports.
- This field testing has been performed for three consecutive years by Intertek Testing Services, NA Inc., an internationally-recognized firm for energy testing expertise. Approximately one-third of all tests conducted each year have occurred in California.
- Each year, D+R has verified that the Intertek test results confirmed that the energy usage of service providers’ set-top boxes in the home is consistent with the energy information provided to consumers and is in substantial compliance with the procurement commitments of the Voluntary Agreement. In fact, in the most recent annual report, D+R found that “[t]he overall average TEC of the tested devices was 19.9 kWh/year below reported values for those models.”¹⁰

⁹ The Associations will provide the 2016 D+R Annual Report once it is available. The carbon dioxide emission equivalency calculation was performed using an EPA calculator available at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

¹⁰ D+R International, 2015 Set-Top Box Annual Report at 10.

- All of D+R's reports have been approved unanimously by the Voluntary Agreement's Steering Committee, on which NRDC and ACEEE are voting members and active participants.

A key to the tremendous savings achieved under the Voluntary Agreement has been its flexible design. Prior to the Voluntary Agreement, NRDC highlighted DVRs as an energy concern because they used more energy than any other type of set-top box and it projected that the number of DVRs was on the verge of growing substantially as consumers sought time-shifting capability for all of their TVs. Instead, DVR energy usage has dramatically declined, not only because of the significant 36% improvement in DVR efficiency noted above, but also because the signatories have been able to avert the expected exponential growth in the number of DVRs. This important change has been accomplished through diverse approaches, rather than through a one-size-fits-all mandate. For example, some providers have designed "whole home DVR" architectures that enable a single DVR in the home to be accessed by lower-powered client devices so that recorded content can be viewed throughout the home:

- DIRECTV's current whole-home solution reduces energy consumption by more than one-third relative to its prior solution (which still met ENERGY STAR standards), and it estimates that its current whole-home architecture uses 80% less energy to provide high-definition recording functionality to a three-TV home than three of its HD DVRs used ten years ago.
- Approximately 4.25 million Comcast customers now have whole-home capabilities to perform recording and playback functions from their non-DVR devices rather than needing additional DVRs, and a majority of Cox's new installations in 2016 using its New Contour platform included a similar arrangement.
- But the Voluntary Agreement also allowed Cablevision to go in a different direction, eliminating DVR hard disk drives in the home altogether for new installations through the use of cloud DVR services available to all of its set-top boxes within the home. Other parties are also now exploring the offering of cloud DVR services.

Another ingredient essential to the success of the Voluntary Agreement is the flexibility it affords to service providers to launch new features without prior notice or approval, so that companies can secure the competitive benefits of first-mover advantages and so that consumers are not delayed from accessing new features. At the same time, the Voluntary Agreement assures that such new features are promptly and transparently brought within the bounds of its commitments to energy efficiency. For example, in 2015, the Steering Committee lacked sufficient information about the necessary compression technologies to set an energy allowance for 4K MVPD service. But DISH was able to launch the first 4K-capable set-top box in 2015 and offer it to consumers immediately, without awaiting preapproval of a 4K allowance or revealing sensitive competitive information to its competitors. DISH reported its new boxes and proposed an allowance, and then the Steering Committee conducted months of intensive review by its technical subcommittee and adopted energy-efficient allowances based on verified data. Under the Voluntary Agreement's new features process, consumers did not have to wait for access to innovative 4K devices, and energy-efficiency goals were still achieved.

Flexibility is also warranted given that the residential video delivery market is in the midst of an ever-accelerating period of revolutionary change. In 2016, for the first time ever, streaming video subscribers and usage equaled pay TV. According to a new study, *The Changing Landscape for Video and Content*, the number of free or paid streaming video subscribers in the U.S. (68 percent) has caught up to the number of pay TV subscribers (67 percent), and the time spent watching video content on all other consumer technology devices, including laptops, tablets and smartphones (49 percent) is now approximately equal to time consumers spend watching video content on TVs (51 percent).¹¹ More than 20% of cable subscribers utilize “TV Everywhere” apps to watch cable content on their tablets, smartphones, PCs, Smart TVs and other devices,¹² and all of the largest MVPDs are continuing to explore additional ways to offer customers access to their services without the use of a set-top box. As consumers elect to obtain more and more of their video through streaming, they may use fewer traditional MVPD set-top boxes in their homes.

The Voluntary Agreement’s flexible approach also emphasizes creativity in pursuing energy efficiency in ways that might not have emerged under standardized mandatory regulation. In 2016, Comcast launched an “HDMI Link” feature that puts certain client devices into the selected power-saver state immediately when the TV is turned off, rather than waiting for hours of inactivity. Signatories are also exploring other power synchronization options that could further reduce the amount of time set-top boxes are in full-power mode, to realize additional energy savings during periods of inactivity.

The ability to make these different choices has enabled MVPDs to maximize energy savings by leveraging the differing characteristics of their diverse technologies and networks, and to be better able to incorporate new innovations and to adapt to ever-changing customer demands in a rapidly-evolving competitive market. The Agreement’s flexible structure thus enables new features and technologies to be rolled out to consumers more quickly than could traditional regulation.

Another strength of the Voluntary Agreement’s non-regulatory approach is the agility and rapidity of its enforcement mechanisms. While the industry’s overall procurement rates have far exceeded the energy-efficiency commitments, there have been two limited cases in which a provider missed a commitment in one particular calendar year. Both of these parties were required to implement a remedial plan that had to be unanimously approved by a subcommittee that includes NRDC and/or ACEEE. Remediation plans approved by this subcommittee save more energy than was lost by missing the procurement commitment, but the parties have been afforded flexibility on how such savings are achieved. For example, the party that missed the commitment in 2014 partly achieved its required savings by downloading new energy-saving software to deployed devices in January 2015, resulting in much swifter remediation than could have occurred in a formal regulatory process. The party that (barely)

¹¹ Consumer Technology Association (CTA), *Content Consumption Milestone: Number of Streaming Video Viewers Now Equal to Paid TV Subscribers, Says CTA* (Mar. 7, 2017), <https://cta.tech/News/Press-Releases/2017/March/Content-Consumption-Milestone-Number-of-Streaming.aspx>.

¹² Adobe, *Adobe Digital Insights 2017: The State of Digital Video* (Apr. 18, 2017) at 14, <https://www.slideshare.net/adobe/adi-state-of-digital-video/1>.

missed its commitment in 2015 has similarly been upgrading software not only on the devices deployed in excess of the commitment but also on older pre-Voluntary Agreement models, a practical, consumer-friendly approach that would not have been within the bounds of a traditional regulatory enforcement action.

Due to these unique characteristics of the fast-changing technologies underlying the pay-TV and broadband markets, this flexible, non-regulatory approach to set-top boxes and SNE has been adopted and embraced by regulators not only in the U.S. but worldwide, with similar agreements in place in Europe, Canada and Australia.¹³

For these reasons, the Commission should recognize that the Voluntary Agreement is accomplishing the objectives of the Warren-Alquist Act in a manner superior to regulation. In order for that to continue, it is essential that the Commission continue to decline to impose regulations. The Energy Advocates and all of the other signatories agreed that the “Voluntary Agreement is intended to be a complete and adequate substitute for all Federal and State legislative and regulatory solutions” and that “this agreement is the preferred means for addressing the energy consumption of complex, networked, digital video service set-top boxes that are generally owned by the Service Provider and integrated with distribution networks, but deployed within the premises of customers.”¹⁴ The parties also expressly agreed to “discourage initiation of any new regulation” of set-top boxes and that “[a]ll commitments of Signatories are contingent on the termination and continued absence of all such proceedings unless otherwise mutually agreed by the Signatories.”¹⁵ Rather than adopt any roadmap toward regulation that would terminate the Voluntary Agreement, the Commission should continue to monitor and encourage the continued success of its energy savings.

In the continued absence of such regulations, the parties to the Voluntary Agreement intend to renew it. By separate letter to the Commission, these parties have reported that they have already initiated steps to extend the agreement prior to its expiration at the end of 2017, with uninterrupted commitments to energy efficiency. The continuation of the Voluntary Agreements will assure ongoing public access to comprehensive information about the energy usage and characteristics of set-top boxes, and further improvements in energy efficiency.

II. The Voluntary Agreement Is Securing Energy Efficiency in all MVPD Homes

The implementation of any additional commitments or regulations with respect to the energy efficiency of already-deployed devices is unnecessary because the Voluntary Agreement

¹³ See Voluntary Industry Agreement to Improve the Energy Consumption of Complex Set Top Boxes within the EU (2013), <http://cstb.eu/wp-content/uploads/2015/06/Voluntary-Industry-Agreement-CSTBs-V-3-1-Final.pdf>; Canadian Pay-TV Set-top Box Energy Efficiency Voluntary Agreement (2017), <http://www.energyefficiency-va.ca/wp-content/uploads/2017/01/STB-CEEVA-Final-January-12-2017.pdf>; Subscription Television Industry Voluntary Code for Improving the Energy Efficiency of Conditional-Access Set Top Boxes (2014), https://www.astra.org.au/images/pages/STV_STB_Energy_Efficiency_Code_v4_August_2014.pdf.

¹⁴ Set-Top Box Voluntary Agreement § 1.3.

¹⁵ Set-Top Box Voluntary Agreement §§ 14.1, 14.2.

is already on track to secure superior levels of energy efficiency in a large and growing majority of all set-top boxes deployed in the United States. The Associations estimate that more than three-fourths of set-top boxes deployed in the United States today were purchased since the Voluntary Agreement's commitments became effective in January 2013.¹⁶

Moreover, the Voluntary Agreement has also improved the efficiency of pre-existing devices. MVPD signatories have downloaded energy-saving software to tens of millions of those previously deployed devices, adding features such as light sleep capability that customers can use to automatically power down their device after periods of inactivity.¹⁷

If the Voluntary Agreement is renewed for another four or more years, by the end of its second term, the vast majority of all deployed set-top boxes will have been purchased under its procurement commitments that would have been in effect for nearly a decade. The typical lifespan of a set-top box has been estimated at five to seven years, or even less when driven by customer demand.¹⁸ For example, many customers have replaced older-model DVRs with newer (and much more energy-efficient) DVRs that include new and better features such as Comcast's voice command remote control and that support whole-home DVR functionality.¹⁹ Thus, there is no need for additional terms that would address the embedded base of devices that were deployed prior to the Voluntary Agreement. Moreover, attempting to accelerate a premature retirement of older model set-top boxes would have its own adverse environmental consequences. The manufacture of appliances consumes energy before the devices are ever used by consumers, from the mining of elements, manufacturing process, international transportation of the components and finished devices, and service provider truck rolls to swap devices at the customers' homes. Additional premature recycling and disposal of retired electronics would also consume more energy and other resources.

¹⁶ D+R's 2016 Annual Report will calculate an estimate of the percentage of deployed devices as of the end of 2016 that were purchased since 2013. The Associations will provide this report to the Commission when available. The Associations' preliminary estimate is based upon trends evident from D+R's 2015 Set-Top Box Annual Report at 19-21, and presumes continued increases along that trajectory into mid-2017. D+R estimated that as of the end of 2015, there were 226.7 million set-top boxes deployed, including 53.9 million DVRs, 112.7 million non-DVRs, 28.8 million thin clients, and 31.4 million DTAs, and that a majority of these devices had been deployed between 2013-2015. *Id.*

¹⁷ D+R International, 2015 Set-Top Box Annual Report at 14 ("By the end of 2015, approximately 32.5 million cable set-top boxes included light sleep energy efficiency capability") and at 12 (indicating that in January 2015 a signatory had downloaded new software to all units of an older model that resulted in that previously non-compliant model meeting the ENERGY STAR 3.0 standards).

¹⁸ Due to product and market variability, there are few broad generalizations that can be made that segment STB product lifetime by equipment type or customer class, but low-cost, palm-sized DTA units tend to have a shorter lifespan because they are more frequently lost or damaged.

¹⁹ Many Comcast customers have proactively requested to replace their existing set-top boxes with Comcast's newer X1 platform, with popular features such as a voice command remote control. The X1 is now deployed in half of its households, up from 30% at the beginning of 2016.

III. Small Network Equipment Should Not be Part of Any Roadmap for Low-Power Modes

The set-top box Voluntary Agreement included a commitment “to develop energy efficiency measures for application to small networking equipment.”²⁰ These efforts led in 2015 to the execution of the Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Small Network Equipment by the same service providers and also major manufacturers and retail providers such as ARRIS, Netgear, D-Link, Actiontec, EchoStar, Technicolor, and Ubee. The SNE agreement established allowances in idle mode, which is the same approach used by the EPA’s ENERGY STAR program²¹ and the approach recommended by IOUs to the Commission.²² The agreement’s signatories committed that 90% of their purchases and retail sales of new SNE beginning in 2016 would meet these idle power allowances.

Like the set-top box agreement, the SNE Voluntary Agreement “is intended to be a complete and adequate substitute for all Federal and State legislative and regulatory solutions” as “the preferred means for addressing the energy consumption of complex and rapidly changing networked devices that consumers purchase for home use for Internet access.”²³ All of the Agreement’s commitments are “contingent on the termination and continued absence of all” “U.S. Federal and State proceedings considering mandatory test procedures or energy efficiency regulation of SNE.”²⁴

The public, and the objectives of the Warren-Alquist Act, would be best served by allowing the continued implementation of these commitments. At the inception of the SNE Voluntary Agreement, it was estimated that its commitments would improve the energy efficiency of small network equipment by 10-20% compared to typical legacy devices developed prior to the Agreement, notwithstanding ever-escalating consumer demands for faster broadband speeds and better wi-fi coverage for an increasing number and variety of connected devices. D+R International’s first annual report on SNE found that an “examination of the reported legacy models purchased and sold in 2015 that did not meet the Agreement’s new energy efficiency standards supports this estimate,” as those “models use an average of 9.38 watts in idle mode, which is 18.4% more than the average of the maximum power consumption (7.92 watts) that would be permitted under the Voluntary Agreement’s allowances for their respective models.”²⁵ Professor G.P. Li, Director of the California Plug Load Research Center at the University of California Irvine, a leader in cutting-edge, energy-efficiency solutions for plug load devices, stated in response to D+R’s report that the realization of the SNE Voluntary Agreement

²⁰ Set-Top Box Voluntary Agreement § 2.3.

²¹ See ENERGY STAR Product Specification for Small Network Equipment, Eligibility Criteria, Version 1.0 (2013).

²² Docket No. 12-AAER-2A, Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), Southern California Gas (SCG), and San Diego Gas & Electric (SDG&E), Analysis of Standards Proposal for Small Network Equipment (July 29, 2013) at 19.

²³ SNE Voluntary Agreement § 1.3.

²⁴ SNE Voluntary Agreement § 12.

²⁵ D+R International, 2015 SNE Annual Report at 11.

commitments “is a significant accomplishment, bolstering our mutual interest in a commitment to reducing the energy footprint of the growing number of plug-load devices used by consumers.”²⁶

The Commission should therefore continue to monitor the progress of the SNE Voluntary Agreement rather than upend it with a roadmap to regulation. The Associations would be pleased to continue to brief the Commission on significant developments, including ongoing efforts to extend the agreement beyond its currently-scheduled expiration after the release of an annual report in 2018.

In any event, if the Commission does further consider this equipment, it should be done in conjunction with set-top boxes rather than broad review of low-power modes and power factor. The latter docket is designed to address products that are not already governed by another energy-efficiency regime, but SNE is already subject to the energy-efficiency standards and reporting requirements established by the SNE Voluntary Agreement. In addition, the market for SNE and the types of issues that would be raised by consideration of SNE bear more similarity to set-top boxes than the more diverse agenda envisioned for a low-power and power factor roadmap.

IV. No New Test Procedures are Necessary

Both Voluntary Agreements use test procedures that are more than “adequate” to assure reliable measurements, so there is no need for the Commission to consider the development of additional test procedures. These test procedures have been adopted by the American National Standards Institute (ANSI), the nationally-recognized forum for standards and the official U.S. representative to the International Organization for Standardization (ISO). While the set-top box Agreement originally used the ENERGY STAR test procedure before shifting to the ANSI/CTA-2043 standard, now it is the EPA that has changed its test procedures to harmonize with the industry standard procedures used by the set-top box Voluntary Agreement.²⁷ Both that standard and the ANSI/CTA-2049 test procedure for SNE are regularly reviewed under the standards process by representative experts from across the industry to assure that these procedures continue to reflect best practices and changes in technology.

²⁶ New Energy Conservation Agreement for Home Internet Equipment Paying Early Dividends for Consumers (Aug. 9, 2016), available at <https://www.ncta.com/news-and-events/media-room/content/new-energy-conservation-agreement-home-internet-equipment-paying-early-dividends-consumers>.

²⁷ After DOE withdrew its proposed test procedure in light of the Voluntary Agreement and the adoption of the CEA-2043 test procedure (*see* Fed. Register 78 FR 79637), the EPA elected to “align[] the test procedure for ENERGYSTAR with CEA-2043.” *See* https://www.energystar.gov/sites/default/files/specs/Draft%20%20Version%204.1%20Set-top%20Box%20Comment-Response_0.pdf.

V. The Commission is Preempted from Regulating Cable Equipment

As CCTA and NCTA have previously explained,²⁸ the U.S. Supreme Court, Congress, and the Federal Communications Commission have all made clear that states are preempted by federal law from regulating the energy consumption of cable set-top boxes. As Congress explained, “a patchwork of regulations that would result from a locality-by-locality approach is particularly inappropriate in today’s intensely dynamic technological environment.”²⁹ The Commission similarly cannot impose reporting or other obligations as part of a roadmap toward regulations that it ultimately lacks authority to adopt.

On two prior occasions when the Commission considered the adoption of efficiency standards for set-top boxes, parties argued that the State of California was federally preempted from adopting such state-specific standards, and the Commission excluded set-top boxes from further consideration.³⁰ The Commission should once again decline to consider the regulation of cable set-top boxes and other subscriber equipment used in cable systems.

Before 1996, states regulated cable systems’ technical operations so long as their rules were consistent with federal law. The Supreme Court observed that a “multiplicity of mandatory and nonuniform technical requirements undermined ‘the ultimate workability of the over-all system,’” and “create[d] potentially serious negative consequences for cable system operators and cable consumers in terms of the cost of service and the ability of the industry to respond to technological changes.”³¹ Congress agreed, and in 1996 amended the federal Cable Act to preempt not only inconsistent state law, but all state regulation of cable subscriber equipment: “No state or franchising authority may prohibit, condition or restrict a cable system’s use of any type of subscriber equipment or any transmission technology.”³² The FCC has consistently applied this law to preempt state regulation of cable subscriber equipment and technology.³³

²⁸ See Docket No. 12-AAER-2A, CCTA-NCTA Proposal for Set-Top Boxes at 4 (July 29, 2013) and CCTA-NCTA Comments at 36 (May 9, 2013).

²⁹ See H.R. Rep. No. 104-204, at 110 (1995).

³⁰ See Dockets 03-AAER-1 and 12-AAER-2A.

³¹ *City of New York v. FCC*, 486 U.S. 57, 60, 65 (1988) (quoting *Review of the Technical and Operational Requirements of Part 76, Cable Television*, Report and Order, MM Docket No. 85-38, 59 RR2d 569, 50 Fed. Reg. 52462 (1985)).

³² 47 U.S.C. § 544(e) (emphasis added). See also 47 U.S.C. § 556(c) (“Except as provided in section 557 of this title, any provision of law of any State, political subdivision, or agency thereof, or franchising authority, or any provision of any franchise granted by such authority, which is inconsistent with this chapter shall be deemed to be preempted and superseded.”).

³³ See, e.g., *Implementation of Cable Act Reform Provisions of the Telecommunications Act of 1996*, Report and Order, CS Docket No. 96-85, 14 FCC Rcd. 5296 at ¶¶ 131-32 (“*Cable Act Reform Order*”) (“uniformity of technical standards ... is essential to prevent the inefficiency and confusion that threatened the cable industry during the period when local authorities ... could set stricter standards than those promulgated by the Commission.”); *In Re Committee on Science, Technology and Energy of the New Hampshire House of Representatives and Town of Chapel Hill, North Carolina*, Memorandum Report and Order, CSR-4291-Z, 11 FCC Rcd 10250, 10251 at ¶ 2 (1996).

State-by-state regulations would conflict with how cable operators purchase and provision their equipment today. Large national cable providers like Comcast, Charter and Cox offer services across wide swaths of the country. To do so, these operators acquire set-top boxes in volume on a nationwide basis to achieve economies of scale and scope that can facilitate greater innovation and investment, and utilize warehouses to supply multi-state regions with equipment. Furthermore, cable operators develop technical designs, firmware and software updates, and new applications through centralized research and development on a national level.

Preemption is also fundamental to preserving an environment conducive to innovation and competition. To date, the FCC has left energy efficiency to the Voluntary Agreement regime endorsed by the U.S. Department of Energy. It continues to exercise its preemptive authority to assure that cable operators can rapidly introduce innovative features without the impediment of state or local law. In 2011, for example, the FCC preempted a claim brought under California law when a cable operator changed the particular program offered in one of its program packages.³⁴ The FCC explained that federal preemption is intended to prevent the application of more restrictive rules that can thwart the rapid introduction of new services in a dynamically changing marketplace.³⁵

Preemption is especially important today to protect the dramatic consumer benefits that come with rapid innovation. As the Associations have previously explained, set-top boxes are extensions of highly-complex, rapidly-changing video distribution networks. The market today moves even more quickly than it did in 1992, reflecting the intensity of competition among service providers and the dynamic nature of technological innovation. Appliance efficiency regulation is designed for standalone products that consumers own and rarely replace, and that operate under stable conditions and perform basically one function in the consumer's home over their long lifetimes. If set-top boxes were subject to state regulation designed for such static products, innovation, consumer choice and competition would be stifled. Set-top boxes and the video services with which they are integrated evolve far more quickly than appliances typically regulated by the Commission. An energy ceiling for set-top boxes as they exist in today – and even allowances for features known today – could not keep up with the rapid invention and the addition of new features. It would be untenable as a matter of public policy for service providers to hold back new functionalities from consumers until they could secure a waiver or rule change or squeeze the power consumption of the new feature into energy allowances designed for set-top boxes without such features. Such a result would paralyze innovation and new services, and deprive competitors of any first-mover advantage that so often motivates investment and development. The obstacles would be even greater if such regulation occurs at a state or local level, by creating multiple and possibly inconsistent regimes, each of which must be navigated before innovation and competition could proceed.

Therefore, the Commission is preempted from adopting the type of rules that its contemplated roadmap would be designed to support.

³⁴ *Petition for a Declaratory Ruling Regarding Negative Option Billing Restrictions of Section 623(f) of the Communications Act and the FCC's Rules and Policies*, Declaratory Ruling, MB Docket No. 10-215, 26 FCC Rcd 2229 at ¶ 13 (Mar. 1, 2011).

³⁵ *Id.* at ¶ 5.

Conclusion

For the foregoing reasons, the Commission should not take any action regarding set-top boxes or small network equipment. The Associations would be pleased to continue to provide updates to the Commission regarding the status of the renewal of the Voluntary Agreements and the issuance of D+R's 2016 annual reports.

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