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NRDC comments on Set-Top Boxes

Additional submitted attachment is included below.

NRDC Comments on Phase 2 Pre-Rulemaking for Set-Top Boxes
Docket # 17-AAER-11
June 16, 2016

On behalf of the Natural Resources Defense Council (NRDC) and its more than 400,000 members and electronic activists in California we respectfully submit our comments on the California Energy Commission's (CEC's) "Invitation to Participate" for set top boxes. NRDC has extensive experience working on reducing set top box energy use having conducted the first comprehensive study on the energy use of these devices and by participating in the Voluntary Agreement with industry which is described below. Below we provide our comments in response to the CEC's Invitation to Participate for set top boxes.

Background

There are approximately 200 million set top boxes installed throughout the US which enable consumers to access pay TV services from cable, satellite and telephone company providers. NRDC previously conducted testing of set top boxes in customers' homes and found that in 2010:

a) There was little to no difference in the amount of power consumed by set top boxes when they were on and in use, and when the consumer turned them off and was not watching or recording a show.
b) On a national level, set top boxes consumed around 9 large power plants worth of electricity, with 6 of those attributed to the boxes' standby power use.
c) A large portion of the pay TV customers had service on more than 1 TV in the home.

After publication of our report the major service providers including Comcast, Time Warner Cable, Direct TV, and AT&T and others reached out to the energy efficiency advocates – NRDC and ACEEE – to pursue a voluntary agreement to bring down set top box use. A multi year agreement was signed in 2013 that contained several elements including: a) reporting of power use of new set top boxes purchased by each service provider (equivalent of CEC's test and list), b) requirements to procure new boxes that meet specific annual energy use limits, c) issuance of public annual report documenting progress and compliance with the VA's requirements, and d) performance of annual field verification testing.

Availability of Relevant Data

The annual report published by the Steering Committee for the VA contains a lot of national level data that will address many of the CEC's data request needs. It also highlights the significant reductions that have occurred in new set top box energy use since the NRDC report and the VA went into effect. Per the 2015 Voluntary Agreement progress report, national set top box energy use was estimated at 27 TWh/yr.

While the VA does an excellent job documenting the energy use of new STBs that were purchased by the service providers, it does not provide the necessary information to sufficiently understand how the installed stock of set top boxes is changing. In other words, have the older, least efficient models been retired or all they still in use. An up to date inventory of the stock of set top boxes installed in the US would be necessary to better understand today' baseline and track the progress being made to further reduce the state-wide energy use of STBs.

The VA agreement for STBs also seems to be lacking reported data on the main box (sometimes referred to as a gateway, server or internet access device) that is increasingly being installed in customers' homes. This device is often put at the front end of a customer's installation and provides multiple functionality including in some cases serving as the source for data, video and telephone service, and as a router to move this content around the house. More extensive data on these devices can be found in the small network equipment SNE, which is an industry only agreement.

Potential Renewal of the Voluntary Agreement

The signatories to the VA have agreed to enter negotiations to update the terms of the VA which extends to products procured through 2017 and to renew it for a specific period of time. We are relatively optimistic that consensus can be reached amongst the parties and that the VA can be renewed.

The key to driving down future energy use in this space depends not only on setting energy use limits for each type of device but also encouraging the shift towards certain types of devices installed in a home. For example, deployed equipment can shift away from high energy using digital video recorders and traditional set top boxes in the home to low power thin clients and where feasible boxless solutions where the consumer receives content directly on their internet connected TV through a software application ("app") or through a very low power consuming over the top (OTT) box such as a Roku box or Google Chromecast dongle.

Potential pathways and commitments for accelerating the shift to this type of new architecture and retiring the older, less efficient legacy equipment may be discussed during the VA renewal negotiations. This could include potential incentives from utilities to accelerate this shift and to permanently retire those boxes that would not have occurred otherwise.

Another topic to be discussed during the VA negotiation or at the CEC is how to best drive down the annual energy use of these gateway devices, which today continuously use up to 20 Watts of power in idle mode and are not currently able to go into a significantly lower power mode during periods of low data transfer rates.
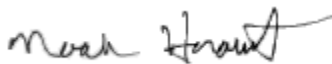
CEC's Roadmap

Per the recent CEC webinar on May17, 2017, we understand that set top boxes are designated under the "road map" category and that via this pathway the Commission is planning to issue a white paper, establish milestones, set reporting requirements and may choose to set mandatory standards if the milestones are not being met or to prevent backsliding.

As described above, the VA is currently serving as an effective tool in driving down set top box energy use and contains multiple, procurement, reporting and publication requirements. Ideally an updated VA can satisfy most, if not all of CEC's objectives for a roadmap and that regulations will not be necessary for this product category. NRDC is committed to working with the service providers, other efficiency groups, and manufacturers to successfully renew the voluntary agreement. We encourage the CEC to provide its input to the VA steering committee as soon as possible so it can be adequately considered during the VA renewal process.

We very much appreciate the opportunity to provide our comments and are available to discuss them further if you have any questions.

Respectfully submitted,

Noah Horowitz
Director – Center for Energy Efficiency Standards
Natural Resources Defense Council
nhorowitz@nrdc.org