Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as amended by the Broadband Data Improvement Act	)	GN Docket No. 09-137
A National Broadband Plan For Our Future	)	GN Docket No. 09-51
International Comparison and Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47

COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION
ON NBP PUBLIC NOTICE #2

The National Cable & Telecommunications Association (NCTA) hereby submits its comments in response to the Public Notice issued by the Commission in the above-captioned proceedings.[1] 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 high-speed Internet service after investing over $145 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 over 20 million customers.

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1 *See* Public Notice, *Comment Sought on the Implementation of Smart Grid Technology*, NBP Notice #2, DA 09-2017 (rel. Sept. 4, 2009) ("*Notice*").

INTRODUCTION

In the *Notice*, the Commission seeks "tailored comment on how advanced infrastructure and services could help achieve efficient implementation of Smart Grid technology."[2] Smart Grid technology, as the Commission noted, represents a promising way to use broadband and other advanced communications to "promote energy efficiency, reduce greenhouse gas emissions and encourage energy independence."[3] It has the potential of encouraging active customer participation in the energy market; accommodating more and different types of generation (including renewal energy and distributed generation) and storage options; creating new products, services and markets; enhancing power quality and reliability; optimizing energy efficiencies; and increasing robustness and durability of the electric grid.[4]

Recognizing these benefits depends, in part, on the integration of existing wired and/or wireless communications networks as the "signaling layer" of the nation's utility grid.[5] Among other things, the *Notice* seeks comment on the suitability of existing communications technologies for Smart Grid applications. As far as cable broadband facilities are concerned, the existing cable networks can be leveraged to deliver the benefits of Smart Grid technologies at low cost to consumers.

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2 *Id*. at 1.

3 *Id*.

4 *See generally* Electric Power Research Institute (EPRI), *Report to NIST on the Smart Grid Interoperability Standards Roadmap* § 2.23 (Aug. 10, 2009), *available at* http://www.nist.gov/smartgrid/Report%20to%20NISTlAugust10%20%282%29.pdf.

5 As suggested by the attached diagram (Attachment A), it is helpful to think of Smart Grid functions as enhancing the "signaling layer" of the electric grid, much like SS7 does for telephony communications, or session initiation protocol (SIP) does for Voice over Internet Protocol (VoIP) applications. Smart Grid includes a two-way communications path in real time, with low latency, and better reliability than currently exists with the electric grid. For instance, in the current grid, the signaling path for an electric outage is the consumer calling the utility over a telephone line to report an outage, and then the utility dispatching a truck to use the 'look up' method to find the outage. The 'look up' method is quite literal – the truck driver goes generally where the outage is and then looks up toward the electric lines to find the outage. With a Smart Grid, the grid itself has the diagnostic ability and communications path to communicate automatically the fact and place of an outage to the utility.

I. CABLE BROADBAND NETWORKS CAN BE EMPLOYED TO ADVANCE RELIABLE AND SECURE SMART GRID EFFORTS

The cable industry is the largest provider of residential high-speed Internet services in the nation, making service available to 92 percent of American households. As noted above, since 1996, it has invested over $145 billion to build two-way interactive networks with fiber optic technology in both urban and rural communities, and it invested more than $14 billion last year alone.[6] These assets can and should be considered when implementing the various Smart Grid solutions.

As Cable Television Laboratories ("CableLabs"), the industry's research and development consortium, recently said in comments filed with the National Institute of Standards and Technology ("NIST"):

> **The Smart Grid should utilize the many communication options already available today**. Metering and energy management networks should not be limited to the utility-owned advanced metering infrastructure (AMI) networks. Mechanisms and interfaces should allow the customer [to] read their own meter in real time and provide preferences to the utility via existing networks, including the Internet. *Utilities can leverage existing, secure broadband networks to provide the majority of AMI and advanced meter reading (AMR) capabilities.* Public policy should not encourage subsidization of new redundant utility telecommunication networks.[7]

A. Cable Broadband Networks Can Support Smart Grid Deployments

The *Notice* asks whether "current commercial communications networks [are] adequate for deploying Smart Grid applications.[8] The short answer, at least with respect to cable broadband networks, is yes.

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[6] NCTA, *Industry Data, Cable Industry Capital Expenditures*, *at* http://www.ncta.com/Stats/InfrastructureExpense.aspx (last visited Oct. 1, 2009).

[7] Comments of Cable Television Laboratories, Inc., Report to NIST on the Smart Grid Interoperability Standards Roadmap [090520915-9921-01], at 4 (emphasis added) (July 20, 2009), *available at* http://www.nist.gov/smartgrid/ConsolidatedComments.pdf. A copy of the CableLabs NIST Comments is attached as Attachment B hereto.

[8] *Notice* at 2.

The premise of "Smart Grid" at its core is enabling communication between various points within the energy network using advanced two-way communications networks. As indicated in the attached diagram, the energy grid can be broken up into various "segments" based on the overarching purpose of the grid.[9] Given the configuration of the cable industry's networks and other resources, these Comments focus on three of these segments: (1) last mile distribution to the meter; (2) middle mile distribution; and (3) home area networks.

The Last Mile. Each customer (whether it be a home, commercial, or industrial premise) must have access to: (1) a communications connection, and (2) a Smart Grid-enabled meter or other devices that facilitate various Smart Grid technologies. These technologies include the remote monitoring and transmission of energy usage data via an advanced meter infrastructure (AMI); demand response and in-home device control by customers and utilities; and facilitating distributed energy resources and storage such as solar panels or plug-in hybrid vehicles. The last mile communications component must allow for two-way communications, be scalable, reliable and secure. These Smart Grid features, however, are not bandwidth intensive.[10] *Existing communications networks, in most cases, are capable of meeting the needs for this last mile connectivity*. Cable broadband networks, for example, currently pass by approximately 120.9 million homes and are built to deliver reliable and secure two-way communications.[11] The Commission should recognize that these cable broadband networks could be leveraged to

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9 These segments include transmission, distribution, last mile distribution to the meter, and in-premise communications.

10 Indeed, even the Utilities Telecom Council (UTC) and the Edison Electric Institute concede that advanced meters only require 1.85 to 2 Mbps per *million* meters (steady reads). *See* Comments of Utilities Telecom Council and the Edison Electric Institute, GN Docket No. 09-51 (filed June 8, 2009) at 7. According to Henry Jones, Chief Scientist of SmartSynch, the daily burden of supporting five-minute interval, two-channel data for all of the meters in the United States (electric, gas, and water) would increase capacity on just AT&T's wireless network by 0.0002 percent. *See* Transcript of FCC National Broadband Plan Workshop, Smart Grid, Broadband, and Climate Change, at 38 (Aug. 25, 2009), *available at* http://www.broadband.gov/docs/ws_15_grid.doc.

11 NCTA, *Industry Data Availability*, *at* http://www.ncta.com/StatsGroup/Availability.aspx (last visited Oct. 1, 2009).

provide last mile connectivity as a cost-effective alternative to deploying a new last mile utility-owned Smart Grid solution at ratepayers' or taxpayers' expense.

By the same token, even if the existing networks are not ubiquitous, it does not mean those networks cannot be the primary communications path for the vast majority of Smart Grid applications. For the small minority of premises and utility customers where there is not an existing broadband connection, there may need to be different or specifically-tailored Smart Grid communications solutions. These unique situations, however, should not be used as a rationale to support the construction – or subsidization – of new parallel networks or spectrum giveaways.

The Middle Mile/Distribution. Broadband and advanced communications networks can also be utilized for distribution automation and to optimize energy efficiencies and enhance power quality and reliability in the middle mile distribution of energy. Automating feeders, substations, transformers and other components of the energy grid allows utilities to identify and quickly respond to outages and power surges, allow for grid self-healing and reduce inefficiencies. The middle mile communications networks should be reliable, scalable, secure and with low latencies. It should be capable of supporting high upstream and downstream bandwidth. *Existing communications networks can be utilized to support these utility needs.*

Moreover, despite assertions to the contrary by the Utilities Telecom Council and Edison Electric Institute,[12] a utility's reliability and security requirements and the cybersecurity objectives outlined in NIST's draft Smart Grid Cyber Security Requirements[13] do not dictate a need for dedicated networks. Reliability and security are not new problems. Existing cable broadband networks already provide communications services to utilities and critical

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[12] *See* Comments of Utilities Telecom Council and the Edison Electric Institute, GN Docket No. 09-51 (filed June 8, 2009) at 8-9.

[13] *See* NIST, *Smart Grid Cyber Security Requirements*, Version 1.0 (Aug. 11, 2009), *available at* http://www.nist.gov/smartgrid/paps/15-DRAFTSmartGrid_Cyber_Security_Requirements.pdf.

infrastructure facilities across the United States and appreciate the federal and state regulatory overlay relating to the transmission, storage and protection of critical infrastructure information.[14]

Furthermore, in many cases, the existing broadband networks are in close proximity to the electric distribution feeds. As the Commission knows, broadband networks use the same poles and trenches as electric networks. Knitting these two networks together for signaling purposes has its challenges, interoperability certainly being one. However, the proximity of broadband networks to electric distribution feeds can result in lower cost deployment of sensors and diagnostic devices in the 'middle mile' of the distribution network.

Home Area Networks. Significant research and resources have already been committed to enable in-premise communication networks. For example, CableLabs has already developed specifications that enable and support interoperability among in-premise products, systems and devices.[15] Standards such as the PacketCable™ Security, Monitoring, and Automation Specification are agnostic to the types of data being transmitted and could be easily utilized to enable home energy management including remote customer and utility device control, and demand response. These standards can empower customers to manage and control their energy usage.

NIST has acknowledged the role these cable specifications can play in supporting Smart Grid development. It recently published a list of initial "existing standards that could be applied

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[14] Moreover, as many industry panelists noted during the 2009 GridWeek Conference held in Washington, DC on September 21-24, 2009, Smart Grid can be likened to the technological revolution that occurred in the telecommunications industry and the energy industry should look to the telecommunications industry for guidance in developing standards for reliability and cyber security.

[15] *See* CableLabs, PacketCable™ Security, Monitoring, and Automation Specification, PKT=SP=SMA-I01-081121 (Nov. 21, 2008), *available at* http://www.cablelabs.com/specifications/PKT-SP-SMA-I01-081121.pdf; *see also* Comments of Cable Television Laboratories, Inc., Report to NIST on the Smart Grid Interoperability Standards Roadmap (July 20, 2009), *available at* http://www.nist.gov/smartgrid/ConsolidatedComments.pdf.

to meet Smart Grid needs" and included PacketCableSMA on that list.[16] By being identified on the NIST list, the CableLabs standard is acknowledged to be "relevant and potentially important to current and future development of the Smart Grid"[17] and *a standard "that can be used now to support Smart Grid development ….*"[18]

In light of all of these developments, the Commission should be wary of encouraging standards or rules that would foreclose the use of certain technologies or existing broadband networks that are capable of supporting home energy management. Equally, the Commission should not incentivize or reward utilities for deploying systems that are utility-specific or vendor-specific and would limit a customer's ability to use multiple technologies or communications networks to manage their home area networks. Home energy management does not require a dedicated system or utility-specific networks or web portals; it can run as an application on a customer's existing broadband network.

II. CABLE BROADBAND NETWORKS CAN SERVE CONSUMERS' AND UTILITIES' NEEDS AT LOW COST

Electric utilities have been exploring Smart Grid opportunities for a good part of the decade, usually concluding that the costs of deploying a new, parallel communications signaling network to enable Smart Grid exceed the benefits in terms of efficiency, reliability and savings.[19] However, a large part of the predicted cost of Smart Grid involves the construction and

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16 *See* Nat'l Inst. of Standards and Tech., *NIST Framework and Roadmap for Smart Grid Interoperability Standards Release 1.0 (Draft)* 32 (Sept. 24, 2009), *available at* http://www.nist.gov/public_affairs/releases/smartgrid_interoperability.pdf.

17 *Id.*

18 *Id.* at 5 (emphasis added).

19 For example, in Xcel Energy's SmartGridCity pilot project in Boulder, Colorado, Xcel Energy and its broadband-over-powerline provider, CURRENT, elected to utilize Qwest Communication's fiber network instead of deploying a dedicated fiber network for Xcel Energy's Smart Grid deployment. *See* Press Release, Qwest Communications Int'l Inc., *CURRENT, Qwest to Integrate DSL into Smart Grid* (June 16, 2009), *available at* http://news.qwest.com/index.php?s=43&item=1893.

maintenance of a new communications network. By partnering with cable broadband providers, utilities can lower the deployment and recurring costs of Smart Grid. In turn, this means that Smart Grid can meet prudent investment tests at the state regulatory level, creating a 'win-win-win' scenario for consumers, utilities and cable broadband providers.[20]

[20] The mechanisms for utility recovery of prudent investment in Smart Grid infrastructure remain at the state regulatory level for investor-owned utilities, and at the co-operative or governing board level for co-operative and municipally-owned utilities. Because Smart Grid functionality is at the distribution network level, these investments are jurisdictional to the state public service/public utility commissions. In turn, all states apply some sort of prudential test to utility infrastructure investments to protect consumers. Accordingly, utility use of existing communications networks to carry Smart Grid communications will in almost all cases be the least cost, and fully-sufficient from a reliability and security standpoint. Therefore, it may well be the case that states require utilities to deploy Smart Grid functionality over existing networks to assure consumers low cost and reliable Smart Grid functionality.

CONCLUSION

Existing cable broadband networks can and will play an integral part in the Nation's efforts to modernize the grid, increase energy efficiencies, reduce greenhouse gas emissions and encourage energy independence. The Commission should recognize this fact in its National Broadband Plan. More important, it should do nothing to encourage policies that incentivize utilities to deploy redundant communications networks at the expense of taxpayers or ratepayers, grant large swaths of dedicated spectrum to utilities, or embrace interoperability requirements that are biased among equally efficient communications technologies. Rather, the Commission should encourage the use of existing communications networks, such as cable's broadband networks, in grid modernization efforts.

Respectfully submitted,

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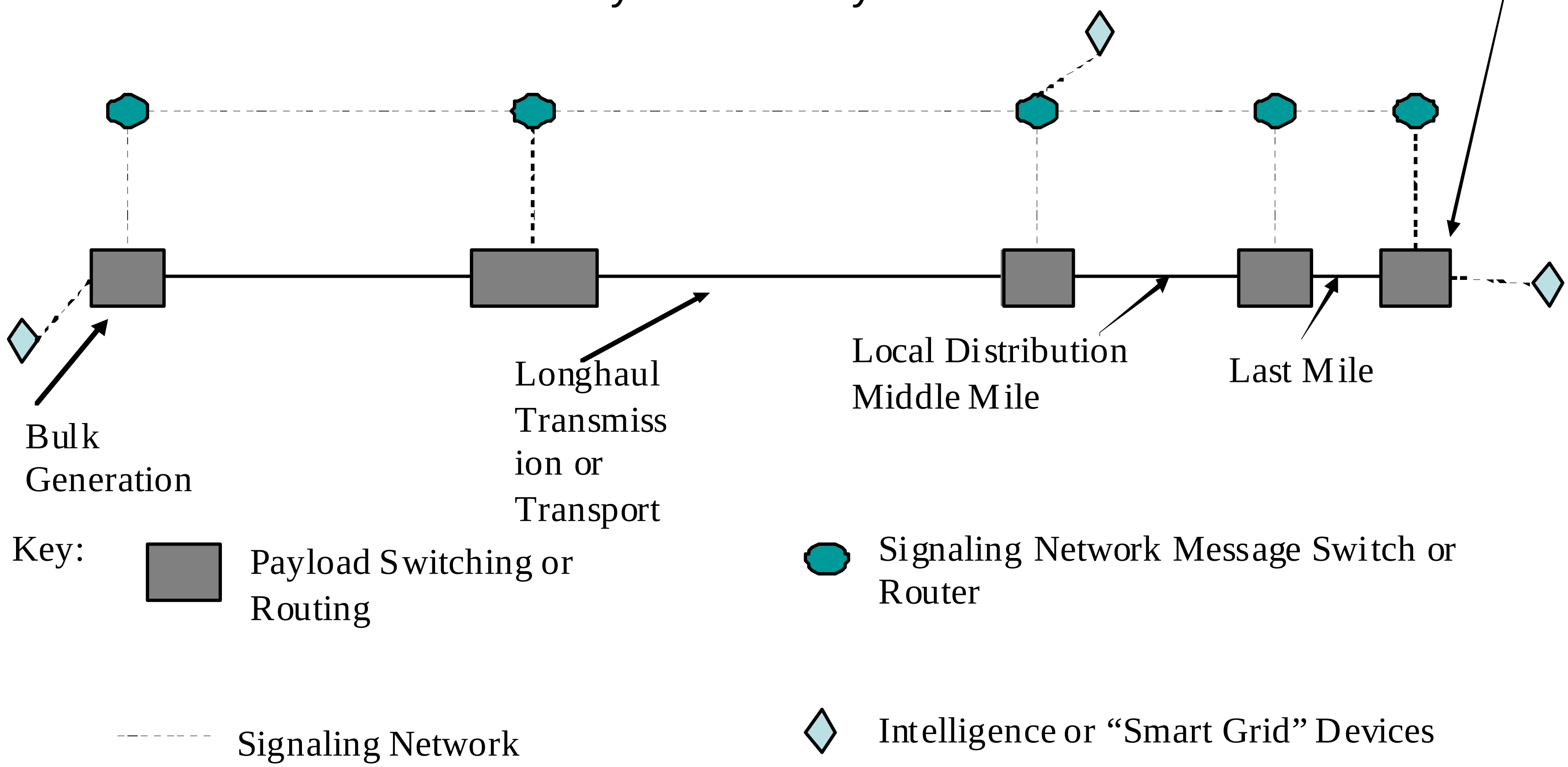
Attachment A

Smart Grid –

Separating Signaling Network from Payload Delivery Network*



* Graphic adapted from a presentation made by Dale N. Hatfield on June 15, 2009 at the Flatirons Summit on Regulatory Policy Toward and Effective Vision of Smart Grid Policy at the University of Colorado and used with author's permission. Dale N. Hatfield is Adjunct Professor in the Interdisciplinary Telecommunications Program at the University of Colorado at Boulder and Executive Director, Silicon Flatirons Center. Prior to joining the University of Colorado, Hatfield was the Chief of the Office of Engineering and Technology at the Federal Communications Commission and, immediately before that, he was Chief Technologist at the Commission.

ATTACHMENT B

National Institute of Standards and Technology
DEPARTMENT OF COMMERCE
Initial List of Smart Grid Interoperability Standards
[090520915-9921-01]
Comments of Cable Television Laboratories, Inc.

Pursuant to the request of the National Institute of Standards and Technology (NIST) for comments on a preliminary set of smart grid interoperability standards and specifications identified for inclusion in the Smart Grid Interoperability Standards Framework, Release 1.0, CableLabs submits these comments.

Cable Television Laboratories, Inc (CableLabs) is a non-profit research and development consortium dedicated to pursuing new cable technologies, and helping its member cable companies integrate those technologies into new products and services for their cable subscribers. CableLabs generally accomplishes this goal by writing common interface specifications to provide high value cable services such as interactive video, high-speed broadband data, and voice services. Our specifications are developed in a collaborative process by multiple parties and industries including consumer device manufacturers, software developers, application programmers, and cable operators. CableLabs also provides laboratory facilities, testing, and certification to the CableLabs specifications.

Most notably, CableLabs facilitated and authored the DOCSIS cable modem specifications that define the interface between customer premise cable modems and the cable network for Internet access and data communications. This effort led to dramatic cost reductions in equipment, and widespread deployment of broadband communications.[1]

CableLabs' members networks pass over 95 percent of the homes in America. They are the leading provider of broadband service with over 40 million homes taking cable modem service. Given that these cable companies have a proven record of delivering interoperable communications services to so many consumers, the interoperability standards defined by NIST should be inclusive of cable industry specifications. This will enable and encourage cable companies to participate in the President’s initiative to create a Smart Grid.

<u>Executive Summary</u>

The initial smart grid standards proposed by NIST provide a starting point for development. However, the standards omit or preclude mechanisms that would

(i) facilitate consumer demand response action to save energy, and
(ii) permit non-utility businesses, including those with communications and broadband experience, from being able to provide useful broadband energy management services to those consumers.

Standards to enable consumer demand response capabilities are among the EISA Smart Grid primary goals, as noted below. Cable companies have existing networks that may be used by utilities and other service providers to communicate with utility customers. Cable companies may also desire to provide utility customers home automation services that include energy

[1] See CableLabs.com for more information on CableLabs.

monitoring and management. The CableLabs PacketCable Security Monitoring and Automation (SMA) specifications should be considered for inclusion on the NIST list of standards.

Background and Stated Goals

Title XIII of the 2007 Energy Independence and Security Act (EISA) defines the Smart Grid by listing ten primary goals. Several of the goals target consumer devices and the use or control of such devices in the home or business, including:

(5) Deployment of "smart" technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation.

(6) Integration of "smart" appliances and consumer devices.

(8) Provision to consumers of timely information and control options.

(9) Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid.

Likewise, the NIST Home to Grid (H2G) Working group has identified consumer and demand side control as key to government, consumer, and product manufacturer goals:

Government goals: …

- promote customer participation in demand response and other programs, and have greater control over their electric energy usage…

Consumer goals:

- Offer tools to manage home energy consumption based on transparent and timely information costs
- Allow consumers to set preferences and override smart grid…

Residential product manufacturer goals: …

- Introduce new products to the marketplace
- Accommodate variety of communications methods and media
- Avoid obsolescence of communications methods
- Support price-to-device as well as home network energy management
- Support energy management by user at appliance control panel2

The existing cable infrastructure and its broadband capabilities should be considered by NIST as a significant asset in setting interoperability standards to enable consumers to manage their electrical consumption and thereby achieve several important EISA Smart Grid and Congressional broadband objectives. Cable operators have unique experience in providing information services to consumers and interfacing with consumers through consumer premise devices.

Separation of Supply and Demand Standards

The initial selection of the OpenAMI specification, developed by investor-owned utilities, recommends direct control of individual consumer devices (e.g. A/C compressors and thermostats) in the home. We are concerned that the framework developed by NIST is based on only this utility-centric energy management model. In this scheme the utility chooses the in-home technical solutions and manages demand via direct load control over the usage of

[2] See NIST SmartGrid Home to Grid Working Group twiki at http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/H2G.

electricity all the way to the end device. The currently adopted "standards" are based on the utility sending messages to control the consumer devices.

While utility companies are well suited to control the *supply* of electricity to the side of the house, consumers should have the option to manage the *demand* for the electricity within the home. Separate treatment of the supply and demand interfaces of the network allows all players to participate, and for innovation and competition to thrive. The selection of only a utility-centric model is contrary to the successful model of the Internet, where open interfaces at various layers have enabled everything from email to secure global commerce.

NIST should adopt open standards that enable direct participation by communications providers with their customers in order to be consistent with the goals of Congress as outlined in EISA.

<u>Core Smart Grid Principles To Assure Consumer Choice and Control:</u>
In order to fulfill the NIST goals highlighted above, CableLabs recommends that the following core principles be incorporated into a comprehensive Smart Grid policy and should be followed by all standards endorsed by NIST.

1. Consumer choice and control should be a key tenet of the Smart Grid. Consumer behavior needs to be driven by incentives, not deterrents. Innovative technology will not be developed if the consumer energy management marketplace is closed off to entrepreneurship. While the current closed model may seem to expedite early deployment, this approach does not scale, nor does it create a sustainable competitive marketplace for energy management consumer products.

2. The utility domain should be separated from the consumer domain in developing and selecting "standards". It is recognized that utilities need to agree on a small number of formal, well defined standards for large scale generation and transmission control of the supply of electricity. However, suppliers of electricity have motivations that differ from consumers of electricity, and therefore their requirements are different. These different requirements should be addressed separately (with appropriate interfaces between the two domains). A "demarcation point" (the meter) should define the supply and demand sides of the market. To underscore the lack of consumer perspective, there currently are no Use Cases in the NIST Roadmap that allow consumer choice or control of their electricity usage.

3. Consumers should have flexibility to control energy management and consumption beyond the meter. Load control can be done more effectively with long-term customer cooperation through pricing mechanisms and consumer-programmed energy management intelligence, rather than by direct load control, or shutting down devices in the home via commands from the utility. By publishing a price, and by giving consumers choice and control, utilities can *indirectly* control the demand for electricity. Consumers should have the option to make the final decision on price and value. With the assistance of innovative energy management tools, the customer should be able to set schedules, rules, and priorities for energy management among the controllable devices in their home or business.[3] The current emphasis

[3] Id.

by NIST on only direct load control commands from the utilities could inhibit market development of customer choices for energy management.

4. The customer should be able to designate an agent (e.g., an energy management service provider) to act on their behalf in controlling energy usage. Such an agent should have the same rights and privileges as the customer, including access to all billing, pricing, and usage data. This agent may be the utility or an independent agent selected by the customer. This model would promote innovation and competition in the energy management services industry.

5. The Smart Grid should utilize the many communication options already available today. Metering and energy management networks should not be limited to the utility-owned advanced metering infrastructure (AMI) networks. Mechanisms and interfaces should allow the customer read their own meter in real time and provide preferences to the utility via existing networks, including the Internet. As Congress and the President recognized in the Recovery Act, utilities can leverage existing, secure broadband networks to provide the majority of AMI and advanced meter reading (AMR) capabilities. Public policy should not encourage subsidization of new redundant utility telecommunication networks.

6. There should be no limitation on how the pricing signals are sent to customers. One key standard that is required for consumer energy management is a specification for publishing pricing signals. This standard should allow a wide spectrum of signal dissemination means, ranging from newspaper, radio, television, to outbound phone calls, to text messages, emails, websites, and APIs for querying the price over the Internet. This will result in widespread notice to the consumer and a wide variety of devices that can utilize the pricing information.

7. There should be no limitations on the types of sensors, devices, gateways, or other in-home technology that the customer can utilize to manage their energy usage, so long as such devices do not harm the grid. Consumer should be able to leverage innovative third party in-home energy management and networking systems to meet their own unique needs, many of which exist today.[4]

8. Cybersecurity. Cybersecurity is not a new problem, and existing networks can address the cybersecurity issue. Policymakers should not create incentives for utilities to create entirely new redundant communications systems. The cable industry offers an integrated network with cyber security features that address network vulnerabilities.

9. Customer privacy. Industry best practices and a self-regulatory framework should be developed to appropriately protect consumer energy usage data and associated customer information.

10. Scalability. Scalability is an important issue that also impacts the home interface to the Smart Grid. Where possible, the Smart Grid architecture should leverage existing and emerging in-home communication and networking standards and systems that have already addressed many of these scalability issues. These standards and systems include IP, HTTP, XML and SSL. These Internet standards are widely adopted, secure, highly flexible, and scalable. They will

[4] Id.

allow the Smart Grid to leverage the enormous capabilities inherent in Internet technology and will attract applications developers who will bring innovative new energy management solutions to consumers.

Specific Comments on Proposed Standards

The currently selected standards, OpenADR and Zigbee Smart Energy Profile, do not include open publishing mechanisms for pricing, as they are based on a closed system that sends secure messages that must be acknowledged by end devices secured by the utility. Despite this shortcoming, we do strongly support the general thrust of OpenADR to provide incentives to consumers to invest in energy efficient equipment or behavior.

The initially selected standards for the home, specifically OpenHAN and ZigBee Smart Energy Profile, may not allow customer choice and control. Consumers appear to be limited to devices and information supplied by their utility energy provider. These standards will not enable consumers to choose among a variety of energy management products and services delivered from a number of service providers, and they will not allow consumers to control the usage of their electricity.

CableLabs PacketCable Security Monitoring and Automation (SMA)

The CableLabs PacketCable Security Monitoring and Automation (SMA) specification should be considered for inclusion.[5] The SMA specification is a cable industry specification that was developed in collaboration with next generation IP-based "Smart Home" product companies and reflects the state of the art in IP-based home automation. It is designed to allow interoperability among products, systems, and devices, and supports a broad range of services, *including energy management.* This specification enables the use of a common shared gateway and shared devices in the home for all managed services, rather than the currently contemplated model where separate equipment is required for each set of capabilities in the home. Energy management does not need a dedicated system; it can run as an application on a shared platform that also supports home security, health care monitoring, video monitoring, HVAC controls, lighting, and the yet to be defined future managed home services.

There is no standard under consideration by NIST that provides the level of interoperability comparable to the CableLabs SMA Specification. By adopting SMA as a Smart Grid standard, NIST will ensure that applications can interoperate. SMA can leverage the power of the Internet in building sustainable Smart Grid and Smart Home solutions. The SMA architecture sets forth a sustainable economic model based on free market innovation, and ensures very low barriers to entry.

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[5] The CableLabs PacketCable SMA Specification is freely available on the CableLabs public website, see http://www.packetcable.com/specifications/packetcableSMA.html . As with other CableLabs specifications, the PacketCable SMA Specification can also be submitted to other ANSI-accredited standard setting organizations (SSO), for example, the Society of Cable and Telecommunications Engineers (SCTE), or even international standards bodies such as the International Telecommunications Union (ITU). All specifications finally adopted by NIST, including industry or alliance specifications such as OpenADR, Zigbee and OpenHAN, should be placed through similar open due process organizations in order to reach a broad and fair consensus.

Conclusion

CableLabs would welcome opportunities to work with NIST. We offer our technical expertise, consensus building experience, testing and certification knowledge, and our desire to encourage a robust market for energy management solutions.

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