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March 16, 2010

EX PARTE OR LATE FILED

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Notice of Ex Parte Presentation in GN Docket No. 09-51, A National Broadband Plan for Our Future;

Dear Ms. Dortch:

On March 9, 2010, Aryeh B. Fishman, Director Regulatory Legal Affairs for the Edison Electric Institute ("EEI") met with Louis Peraertz Legal Advisor to Commissioner Clyburn in connection with the above-referenced proceeding. During the meeting, the parties discussed EEI's positions related to the National Broadband Plan ("NBP").

Mr. Fishman indicated that EEI was generally supportive of the FCC's approach to its examination of energy issues in the NBP. He cautioned that the energy issues being studied by the Commission were very complex and in many instances involved matters that were subject to state regulatory jurisdiction as well as that of the Federal Energy Regulatory Commission and other federal bodies. Mr. Fisherman also noted that unlike in other industries, individual electric utilities face somewhat unique situations based on differences in customer-base, location, load, corporate structure and regulatory treatment. At the same time, the industry as a whole faces rising cost pressures which have to be factored in as the industry strives to continue to provide efficient, cost-effective, safe and reliable service to consumers. Consequently, he urged the Commission to recognize that electric utilities need flexibility with regard to spectrum usage, that any recommendations regarding Smart Grid technology should take into account costs and the fact that the technology was still evolving, and that ultimately many of the energy issues being discussed in the NBP are subject to state and not Federal jurisdiction.

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Attached hereto are copies of an EEI document entitled "Utility-Scale Smart Meter Deployments, Plans & Proposals, February 2010" and EEI's Response to OSTP Request for Public Comment which were distributed at the meeting.

Sincerely,

STINSON MORRISON HECKER LLP

H. Russell Frisby, Jr

HF:SMH

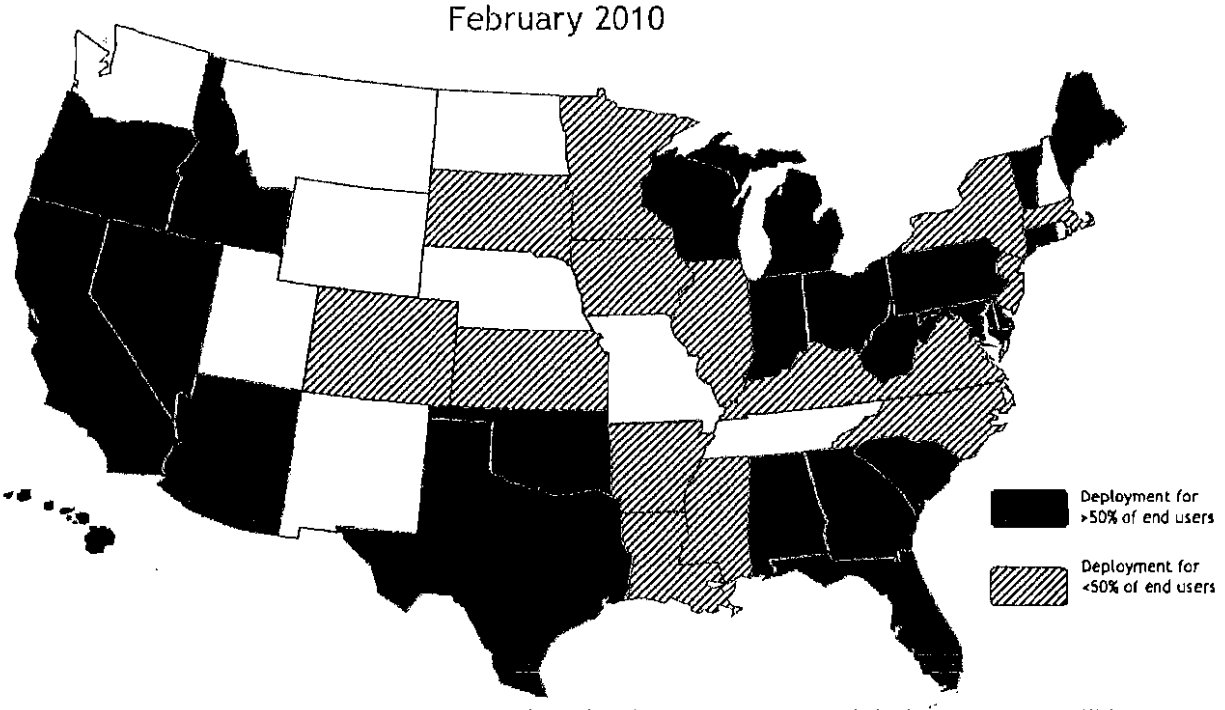
Attachments

Cc: Louis Peraertz

The EDISON FOUNDATION | INSTITUTE FOR Electric Efficiency

Utility-Scale Smart Meter Deployments, Plans & Proposals

February 2010



This map and table summarize smart meter deployments, planned deployments, and proposals by investor-owned utilities and some public power utilities. The program descriptions include the target number of meters to be deployed for each utility in the **Meters** column, with approximate numbers of meters deployed to date included in the **Notes** column whenever possible. When applicable, details of Smart Grid Investment Grants (SGIG) awards through the American Reinvestment and Recovery Act (ARRA) are included. Please note that smart meter deployments by rural electric cooperatives, though extensive, are not included in this table. For more information and other smart grid resources, please visit www.edisonfoundation.net/IEE/.

Utility	State	Target Number of Meters	Notes	Resources
AEP[1]	IN, KY, MI, OH, OK, TX, VA, WV	5,000,000	AEP plans on deploying smart meters to all customers within their service territory and have deployed 10,000 meters to customers in South Bend, IN, and are presently deploying another 700,000 to AEP-Texas customers. Timing for the remaining deployments will depend on specific conditions in each of the seven operating company subsidiaries.	AEP Corporate Sustainability Report 2009[2]
Allegheny Power	MD, PA, WV	700,000	Allegheny launched pilots in Morgantown, WV and Urbana, MD to test smart meters and thermostats (1,140 meters installed). In PA, Act 129 (2008) requires electric distribution companies with more than 100,000 customers to file a smart meter technology procurement and installation plan for Commission approval. Allegheny's plan to deploy smart meters throughout their service territory was rejected in October 2009 and a revised smart meter plan is currently being drafted.	Allegheny Power 2008 Annual Report[3], MD H.B. 1072

Utility	State	Target Number of Meters	Notes	Resources
Allete (d/b/a Minnesota Power)*	MN	8,000	Minnesota Power was awarded $1.54 million (total project value, $3.08 M) to expand its existing smart meter network by deploying another 8,000 meters in northeastern MN. The utility will also begin a dynamic pricing program.	www.energy.gov/ recovery/
Alliant Energy	IA, MN, WI	1,000,000	Deployment began in WI in 2008, expected to reach completion by 2011; deployment in IA & MN expected to begin in 2010	alliantenergy.com/ami
Ameren	IL	1,100,000	Ameren began their smart meter deployment in 2006 and reached 50% of their installation target by June 2008. Full deployment is expected by 2011-12.	Landis+Gyr press release[4]
Austin Energy	TX	234,000	Austin Energy's smart meter program was approved in 2008, full deployment is underway and is expected to reach completion in 2010.	metering.com[5]
AZ Public Service	AZ	800,000	Expected completion in 2013. APS customers can enroll in the Time Advantage Plan, a time-of-use (TOU) rate structure.	APS News Release[6]; www.aps.com/ smartmeter/
Baltimore Gas & Electric	MD	2,000,000	BG&E began with a smart meter pilot of 3,000 meters in 2008 and was awarded $200M in SGIG funds ($452M total project value) to deploy 1.1M smart meters, coupled with dynamic pricing. The utility aims to deploy smart meters throughout their service territory with a planned completion date of 2014, approval pending.	www.energy.gov/ recovery/; Constellation (BG&E) press release[7]; Baltimore Business Journal[8]
Bangor Hydro-Electric	ME	120,000	BHE has deployed 2-way smart meters to 97% of their service territory and plan to complete deployment to the remaining 3% in 2009-10.	Email correspondence (04/17/09), www.bhe. com
Black Hills/ Colorado Electric Utility Co.	CO	42,000	The utility received $6.1M in SGIG funds ($12.2M total project value) to install meters and communications infrastructure.	www.energy.gov/ recovery/
Black Hills Power	SD	69,000	Black Hills was awarded $5.59M in ARRA funds ($11.2M total project value) to install smart meters, upgrade ICT infrastructure, and other equipment. The upgrades will also benefit customers in MN an SD.	www.energy.gov/ recovery/
CenterPoint	TX	2,200,000	CenterPoint Houston received approval in 2008 to install an advanced metering system across its service territory, and was awarded $200M in SGIG funds ($639M total project value) to complete installation of meters throughout its service territory.	CenterPoint 2008 Annual Report[9]; www. energy.gov/recovery/
Central Maine Power Company	ME	650,000	The utility was awarded $96M in SGIG funds ($196M total project value) to install a smart meter network for all customers in their service territory.	www.energy.gov/ recovery/
Central VT Public Service/VT Transco	VT	300,000	A SGIG award of $69M ($138M total project value) is designed to help expand the deployment of smart meters from the present 28,000 to 300,000, along with installation of demand response technologies and other infrastructure.	www.energy.gov/ recovery/; CVPS press release[10]
Cleco Power	LA	275,000	$20M in SGIG funds ($62.5M total project value) were awarded to the utility to install a smart meter network for the utility's entire service territory.	www.energy.gov/ recovery/

Utility	State	Target Number of Meters	Notes	Resources
Commonwealth Edison	IL	50,000	ComEd is running a pilot in the greater Chicago area to install smart meters in 50,000 homes and is considering deployment throughout their service territory.	www.exeloncorp.com; Yahoo finance article[11]
Connecticut Light & Power	CT	1,200,000	CL&P delaying deployment of 1.2 million smart meters until after a pilot is performed in 2009. The pilot includes TOU, CPP and PTR rates.	http://www.cga.ct.gov/
Dominion	VA	200,000	Dominion has installed smart meters in Midlothian and is currently installing smart meters in Charlottesville to test the technology before moving forward with future deployments. Plans for 2010 installations are currently under development, pending Commission approval.	www.dom.com; metering.com[12]
DTE	MI	4,000,000	DTE initially tested 30,000 meters in Grosse Ile Township and was awarded $84M in SGIG funds ($168M total project value) to deploy a network of 660,000 smart meters. A dynamic pricing pilot for 5,000 customers will also be implemented. The grant will support DTE's "SmartCurrents" program, which the utility hopes to scale to full deployment of smart meters.	www.energy.gov/recovery/; DTE press release[13]; annarbor.com article[14]
Duke Energy	KY, IN, OH, NC, SC	2,400,000	Duke was awarded $200M in SGIG funds ($851M total project value) for a grid modernization project, including the deployment of 1.4M smart meters. The funding helps move Duke's plans to deploy meters throughout its service territory. 48,000 meters have already been deployed in OH and they filed a proposal for a five-year rollout of 800,000 meters in IN.	www.energy.gov/recovery/; Business Courier of Cincinnati[15]; Charlotte Business Journal[16]; cincinnati.com article[17]
Entergy New Orleans	LA	11,000	The utility was awarded $5M ($10M total project value) to install smart meters, coupled with dynamic pricing, in low-income households in New Orleans.	www.energy.gov/recovery/
FPL	FL	4,400,000	FPL was awarded $200M in SGIG funds ($578M total project value) to move forward with their Energy Smart Florida program, which includes 2.6M smart meters for customers in south Florida. FPL plans to deploy smart meters throughout their service territory.	www.energy.gov/recovery/; http://www.fpl.com/
Hawaii Electric Company	HI	450,000	HECO was awarded ARRA funds, but did not include smart meters in their proposal. However, the utility is planning to deploy smart meters throughout their service territory by mid-decade.	Energy Efficiency News[18]; http://www.heco.com
Idaho Power	ID	475,000	Original 2007 pilot extended to the entire service territory. Idaho Power received $47M ($94M total program cost) of SGIG funds to install meters and other infrastructure, with full deployment expected by 2011.	Idaho Power press release[19] & AMI FAQ page[20]
Indianapolis Power & Light	IN	28,000	IP&L was awarded $20M in SGIG funds (total program cost, $48.78M) to deploy smart meters along with completmentary technologies in their service territory.	www.energy.gov/recovery/

Utility	State	Target Number of Meters	Notes	Resources
Madison Gas & Electric	WI	1,750	$5.5M in SGIG funds ($11M total project value) were awarded to the utility to install a smart grid network, including meters, EV charging stations, and in-home charging management systems.	www.energy.gov/recovery/
National Grid	MA, NY	54,400	Under the MA Green Communities Act, all four utilities must submit plans for a smart grid pilot. National Grid's is currently being considered by the Commission and, if approved, would deploy 15,000 smart meters to customers in the Worcester area. National Grid has also proposed a smart grid demonstration program in the Syracuse area, that includes a planned deployment of 39,400 meters.	www.smartmeters.com[21]; www.mass.gov/dpu
NSTAR	MA	3,000	NSTAR has submitted a plan to the Commission for a pilot project in Newton and Hopkinton. A decision is pending.	www.smartmeters.com[21]; www.mass.gov/dpu
NV Energy	NV	1,300,000	$138M in SGIG funds ($298M total project value) was awarded to the utility to integrate smart grid technologies, including smart meters for 1.3M customers.	www.energy.gov/recovery/
Oklahoma Gas & Electric	OK, AR	771,000	OGE was awarded $130M in SGIG funds ($293M total project value) to deploy a smart grid network to the entire service territory, including meters and dynamic pricing options.	www.energy.gov/recovery/
Oncor	TX	3,000,000	Originally a deployment of 600,000, program expanded for all customers in north Texas; full deployment expected by 2012.	Dallas Morning News[22]
Pacific Gas & Electric	CA	5,100,000	The utility expects to reach full deployment by 2012. A critical peak pricing (CPP) rate structure is in place for some customers along with a voluntary SmartRate program.	PG&E Presentation, IEE Issue Briefs page[23]
PECO Energy Company	PA	600,000	PECO received the maximum ARRA award of $200M ($422M total project value) to upgrade communicatino infrastucture and support a smart meter network for 600,000 customers. Depending on the success of the program, PECO is planning on extending smart meters to all 1.6M customers.	www.energy.gov/recovery/
PEPCO Holdings	DC, DE, MD, NJ, VA	1,900,000	PEPCO received $149.4M in SGIG funds ($298M total combined value for two projects) for smart grid investments, including 280,000 smart meters for DC customers and 570,000 meters for MD customers. PEPCO originally proposed deployment for the entire service area with a target date for full deployment of 2013; 258,000 were deployed by January 2009 with a pricing pilot testing hourly pricing, CPP, and PTR rate structures.	www.energy.gov/recovery/; PEPCO press release[24]; washingtoninformer.com article[25]; www.dccouncil.washington.dc.us/
Portland General Electric	OR	850,000	PGE's program was approved in 2008, full deployment is expected to be completed by the fall of 2010.	PGE Earnings Report[26]; PGE Smart Meters web page[27]
Progress Energy	NC, SC	160,000	The multi-state utility was awarded $200M in SGIG funds ($520M total project value) for a smart grid virtual power plant, including installation of smart meters throughout its service territory in the Carolinas.	www.energy.gov/recovery/

Utility	State	Target Number of Meters	Notes	Resources
Sacramento Municipal Utility District	CA	620,000	The utility board approved a 30-month rollout of the meters in June 2009 and the utility was awarded $127.5M in SGIG funds ($307.7M total project value) to install meters throughout their service territory along with dynamic pricing, 100 EV charging stations, and 50,000 demand response controls.	Sacramento Bee article[28]; www.energy.gov/recovery
Salt River Project	AZ	935,000	The utility received an additional $56.8M in SGIG funds (total program cost, $114M) to add an additional 540,000 smart meters to the nearly 400,000 already deployed. The program will also include dynamic pricing structures.	SRP Smart Meter Page[29]; metering.com[30]; Phoenix Business Journal article[31]
San Diego Gas & Electric	CA	1,400,000	SDG&E was awarded $28.1M in SGIG funds ($60.1M total project value) to deploy smart meters throughout their service territory.	http://www.sdge.com/smartmeter/
Southern California Edison	CA	5,300,000	Deployment began in June 2009, with full deployment expected by 2012. A peak-time rebate (PTR) rate structure available to some customers.	SCE Presentation, IEE Issue Briefs page[23]
Southern Company	AL, FL, GA, MS	4,300,000	Southern Co. was awarded $165M in SGIG funds (total program cost, $330M) to continue with its plans to deploy smart meters throughout it service area; GA Power has deployed 750K meters out of a planned 2.16M; Alabama Power has deployed 450K of 1.2M; projected to reach full deployment by 2012-13.	www.energy.gov/recovery; GA Power smart meter page[32]; AL Power smart meter page[33]; Reuters press release[34]; Greentech Media article[35]
State Program	PA	6,000,000	Act 129 (signed 10/15/2008) mandates that EDCs with >100,000 customers must provide smart meters either to customers that request one, for newly constructed buildings, or to all customers within fifteen years. Duquesne Light will offer 8,000 meters to customers by 2013.	PA Act 12928[36], smartmeters.com article[37]; SNLi article[38]; Pittsburgh Tribune-Review[39]
Texas New Mexico Power	TX	230,000	A trial of 10,000 meters was announced in early 2009; utility seeks to expand meters to entire service territory by 2013.	TNMP press release[40]
Vermont utilities, Efficiency Vermont	VT	174,000	VT Department of Public Service worked with VT's 20 utilities to extend smart grid technologies across the state. This program was launched prior to the SGIG funds awarded to VT Transco in October 2009.	Burlington Free Press article[41]
Westar Energy	KS	48,000	Westar was awarded $19.04M in SGIG funds (total project value, $39.29M) to transition Lawrence, KS into a smart energy city, including smart meter installation and other smart infrastructure. It is expected to take between 24 and 36 months to implement.	Marketwire.com article42
Total		**59,859,150**		

*This table illustrates planned and proposed deployments of smart meters across the United States in the next decade, including meter deployments funded through Smart Grid Investment Grants awarded through the Department of Energy. If full deployment for each of these proposals is achieved, **a total of 59,859,150 meters will be installed and operable by 2019.** According to EIA's forecast of electricity customers in 2020, **this represents roughly 47% of U.S. households.**[43]*

References:

1. *AEP also has service territories in AR, TN, and LA but have not been included in the map due to the small number of customers they represent in terms of the total number of end-users in those states. AEP customers in these service territories will also receive smart meters under the utility's plan.*
2. *www.aep.com/citizenship/crreport/*
3. *www.alleghenypower.com*
4. *www.smartmeters.com/the-news/241-smart-meter-deployment-reaches-milestone-in-illinois.html*
5. *www.metering.com/node/11796*
6. *www.aps.com/general_info/NewsRelease_ARCHIVED/NewsReleases/NewsRelease_386.html - AZ Public Service announcement*
7. *ir.constellation.com/releasedetail.cfm?ReleaseID=327372*
8. *"BGE Unveils $500M Smart Grid Program," Baltimore Business Journal, July 13, 2009*
9. *www.centerpointenergy.com/annualreports/2008/*
10. *www.cvps.com/AboutUs/news/viewStory.aspx?story_id=190*
11. *ca.news.finance.yahoo.com/print/s/04082009/31/link-f-prnewswire-comed-seeks-federal-funding-build-smart-grid-federal.html*
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14. *www.annarbor.com/business-review/dte-energy-planning-major-smart-grid-investment/*
15. *www.bizjournals.com/cincinnati/stories/2008/05/26/daily19.html*
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36. *www.puc.state.pa.us/electric/pdf/Act129/HB2200-Act129_Bill.pdf*
37. *www.smartmeters.com/the-news/370-pennsylvania-moving-ahead-with-smart-meter-rollout.html*
38. *"PECO seeks PA Approval of Smart Meter Plan," SNL, August 14, 2009*
39. *"Smart Grids Can Give People Power to Cut Electric Bills," Pittsburgh Tribune-Review, August 23, 2009*
40. *www.tmp.com/news/2009/08-05-09.asp*
41. *www.burlingtonfreepress.com/article/20090810/NEWS02/908100314/*
42. *www.marketwire.com/press-release/US-Department-of-Energy-Selects-Westar-Energys-Smart-Grid-Application-NYSE-WR-1066463.htm, www.energy.gov/recovery/*
43. *"2009 Annual Energy Outlook," EIA, www.eia.doe.gov/oiaf/aeo/index.html*

Note: This map shows the extent of smart meter deployments by electric utilities that are either completed, underway, or planned with a completion date of 2019 or before. For the purposes of this reference, smart meters are defined as advanced meters that allow for two-way communication and real-time analysis of electricity consumption. This map does not include automatic meter reading (AMR) installations. Information was compiled using the latest public data available as of February 1, 2010. Readers are encouraged to verify the most recent developments by contacting the appropriate utility or regualtory body.

For inquiries or to provide feedback, please contact Matthew McCuffree at mmccuffree@edisonfoundation.net. For further information, please visit http://www.edisonfoundation.net/IEE/.

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EDISON ELECTRIC INSTITUTE

March 12, 2010

Office of Science and Technology Policy
Executive Office of the President
Attn: Open Government Recommendations
725 17th Street
Washington, DC 20502
Via E-mail: Smartgrid@ostp.gov

Re: OSTP Request for Public Comment—Consumer Interface with the Smart Grid

The Edison Electric Institute ("EEI"), on behalf of its member companies, hereby submits the following comments in response to the request by the Office of Science and Technology Policy ("OSTP") for input regarding the consumer interface with the modernized electric grid ("Smart Grid"), which is a vital component of the President's comprehensive energy plan. EEI is the association of the United States investor-owned electric utilities and industry associates worldwide. Its U.S. members serve almost 95 percent of all customers served by the shareholder—owned segment of the U.S. industry, about 70% of all electricity customers, and generate about 70 percent of the electricity delivered in the U.S.

EEI frequently represents its U.S. members before Federal agencies, courts, and Congress in matters of common concern. EEI and it members have an ongoing interest

in Smart Grid issues, not only with regard to customer interfaces, but also with regard to equally important consumer welfare issues such as the cost and the availability of reliable electric utility service, better equipping this nation's energy infrastructure to manage current and future demands, and ensuring the security and resiliency of this country's energy supply against natural disasters and man-made threats.[1]

Overview

The electric industry supports the President's efforts to develop a comprehensive energy plan to address the public policy goals of reducing U.S. dependence on foreign oil, creating jobs, and helping U.S. industry to compete successfully in global markets for clean energy technology. Optimizing energy production and consumption, especially during peak load periods, can improve the reliability, security, and efficiency of the nation's electric grid while reducing energy costs to consumers. Properly deployed and utilized with respect to the goals of utilities and applicable regulators, smart grid technology, such as advanced metering infrastructure ("AMI")/smart meters, can play an important role in achieving these results.

The path to higher efficiency and energy independence must involve ensuring that utilities may continue to properly deploy Smart Grid applications in a manner so as to more efficiently use resources and to achieve significant operational benefits for all customers, as well as helping consumers to minimize both peak and overall energy

[1] *See e.g. Achieving Energy Reliability Together, 2010 Strategic Plan*, Office of Electricity Delivery & Energy Reliability (September 2009).

usage and to better manage their energy bills. To achieve these goals, as well as to meet the industry's challenge to address climate change, electric utilities are increasingly introducing new "smart" components to the electric grid that will enable multi-directional communication providing the ability to access, analyze and respond to much more precise and detailed data from all levels of the grid. As part of this effort, many of EEI's members have deployed, begun to deploy, or have proposed to deploy smart meters.[2] Given that these utilities, like their customers, vary greatly in geographic location, structure, population, state and local regulation, and economics, we must avoid the imposition of nationally-mandated "one-size fits all" technological mandates. It is equally important that the Smart Grid not be viewed as simply a matter of broadband policy. Instead, it must be recognized that this nation's electric grid is far different from broadband networks in terms of technology, cost and regulatory treatment, and that the policy treatment should be based on the unique characteristics and performance requirements associated with the grid. Consequently, electric utilities must be free to work with State and Federal energy regulators to determine how to implement cost-effective Smart Grid infrastructure to support the diversity of consumer needs. Too often, policy makers and others who are oriented towards broadband issues, and who may lack a complete understanding of electric utility economics, may not be aware of this fact.

It is because of the importance of the Smart Grid to this nation's energy future, and the above-referenced need to proceed cautiously to avoid adopting counterproductive technological or regulatory mandates, that the electric industry

[2] Included as Attachment A is a map of Utility-Scale Smart Meter Deployments, Plans & Proposals as of September 2009.

welcomes OSTP's interest in the Smart Grid area given its broad mandate to advise the President and others within the Executive Office of the President on the effects of science and technology on domestic affairs. The questions asked by OSTP are useful, but limited in scope, call for premature answers, and do not recognize all of the complexities involved. In particular, it is not appropriate at this time in the development of the Smart Grid to deem the smart meter as the "primary gateway." The Smart Grid is in its developmental stages and no governmental body should attempt to choose technologies. Similarly, no discussion of the architecture of the Smart Grid can be complete without a discussion of the costs involved, how those costs are to be recovered, and the important role of the States not only with regard to costs, but also in connection with data access and privacy issues.

To the extent that OSTP is considering policy options, this inquiry should be seen as only the start of the process, due to the fact that the scope of the questions does not provide a sufficient basis for making concrete policy decisions.[3] Any plan by the Administration should be developed as one of the interrelated components of the broader national effort to promote energy independence and efficiency; cybersecurity, public safety and homeland security; and electric systems reliability. Such a plan must take into account fundamental principles of utility cost-of-service regulation. It must also take into account both the needs and the obligations of all of the stakeholders, including, but not limited to, electric utilities, customers, and third party service providers. In this environment, the electric industry clearly has an important role to play if the President's goals are to be achieved.

[3] EEI is pleased that the Public Notice recognizes that one or more future requests for comment may be organized to obtain input on additional issues.

Question 1: The Smart Meter as the "primary gateway"

In Question 1 OSTP asks should the smart meter serve as the primary gateway for residential energy usage data, price data, and demand response signals; and what are the most important factors in making this assessment, and how might those factors change over time? First, EEI does not believe that it is appropriate at this time in the development of the Smart Grid to deem the smart meter as the "primary gateway" for residential energy usage data, price data, and demand response signals. The Smart Grid is in its early developmental stages and many options are available to serve as a "gateway" for residential energy usage data, price data, and demand response signals. It is simply too early to make a determination as to whether or not smart meters should be the "primary gateway" for these types of data. Second, technology choices ought not to be preordained by a Federal government mandate that designates smart meters as the primary gateway. Other means by which to access residential energy usage data, price data, and demand response signals include, but are not limited to: the path used by an AMI system to communicate with meters, private VHF or UHF radio (owned by the utility, municipalities, etc.), paging, VHF broadcast radio subcarriers (that is, inaudible channels of broadcast FM radio stations, and digital cellular phone (audio or short-message channels);[4] as well as Home Area Networks ("HANs"), radio frequency receivers (such as communications-equipped thermostats), in-home displays, energy management portals, and digital control devices.

[4] Plexus Research, Inc., *Deciding on "Smart" Meters: the Technology Implications of Section 1252 of the Energy Policy Act of 2005*, September, 2006. Prepared for EEI.

The various stakeholders should be allowed to develop competing technologies and operational paradigms. Decisions regarding the best technology to employ should be made by each utility based upon the unique characteristics of its service territory and customer base. Among the most important factors affecting such decisions are customer density, the nature of the utility's legacy systems, and the degree to which the utility is integrated. Customer density affects the cost of communications very directly. Technologies that are cost-effective for urban systems may not be for rural systems, and vice versa. The capabilities of the utility's existing communications infrastructure will affect the cost-effectiveness of alternative communications choices going forward.

These decisions should be made in concert with State regulators so that each regulated utility can meet its obligation to provide safe and adequate service at just and reasonable rates to consumers. Currently, consumer advocates in some instances are opposing cost recovery of Smart Grid expenses in rates. [5] As a general rule, regulated utilities conduct cost/benefit analyses to make a business case to justify upgrades and Smart Grid deployments.

Additionally, OSTP requests a discussion of the most important factors for making the assessment as to whether or not the smart meter should serve as the primary gateway. As discussed above, EEI does not believe that a one-size-fits-all solution is appropriate. EEI believes that any standards adopted or recommended need to be

[5] *See e.g. Advanced Electric Metering and Advanced Electric Metering Infrastructure Principles of the National Association of State Utility Consumer Advocates (Resolution 2009-*01) ("utilities should...collect at most only the net costs in rates...").

flexible to allow for innovation in technology and market structure. Utilities should be free to choose the communications technologies that will work best for them and their customers. If utilities have such freedom, their choices will change as communications technologies evolve and improve. This is why the development of interoperability standards is so important: they will allow component technologies to continue to evolve, and yet still work together.

As required by the Energy Independence and Security Act ("EISA") of 2007, the Commerce Department's National Institute of Standards and Technology ("NIST") has been directed to "coordinate the development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems." This development process is underway and encompasses numerous stakeholders, including electric utilities. EEI supports the NIST standards development process, and believes that standards promulgated must facilitate, rather than impede, development of the Smart Grid.[6] The interoperability and cyber security framework discussed in EISA notes that the standards developed by NIST should be:

- "flexible, uniform and technology neutral, including but not limited to technologies for managing smart grid information,"
- "accommodate traditional, centralized generation and transmission resources and consumer distributed resources,"
- "flexible to incorporate regional and organizational differences, and technological innovations," and
- "consider the use of voluntary uniform standards" that "incorporate appropriate manufacturer lead time."[7]

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[6] *See e.g.* NIST SG website: http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/WebHome

[7] Quotes in the bulleted list are from the Energy Independence and Security Act of 2007 [Public Law No: 110-140] Title XIII, Sec. 1305.

Thus, the language of EISA supports EEI's belief that the technology choices should not be preordained by Federal mandate. Instead, EEI submits that the standards should be sufficiently flexible to allow regulated utilities to meet their obligations to customers to provide safe and adequate service at just and reasonable rates in the most cost effective manner.

Question 2: The feasibility of gateways other than the Smart Meter

In Question 2, OSTP asks whether a data gateway other than the smart meter should be used for all or a subset of the data described in question 1. As discussed in response to question 1 above, EEI believes that any standards adopted or recommended need to be flexible to allow for innovation in technology and market structure. Moreover, just as an Automated Teller Machine ("ATM") is not the only means by which customers can access their bank accounts, a number of alternate means exist by which to access smart grid data. See discussion at page 5. EEI submits that standards must facilitate, rather than impede development of the Smart Grid and should not favor or disadvantage another. Finally, EEI believes that the standards should allow regulated utilities to meet their obligations to customers to provide safe and adequate service at just and reasonable rates in a cost effective manner.

Question 3: Data access by consumers and third-party service providers

In Question 3, OSTP asks whether consumers and their third-party service providers would be able to access data easily and in real time if the smart meter were to be the primary gateway. As previously discussed, it is premature to make a decision on

whether the smart meter should be the primary gateway. Technology is still evolving. Government should not pick technological "winners" or "losers."

It should be noted that there is no agreement as to a final definition of what constitutes "real time" data. Clearly, the term should not be defined to mean "instantaneous." For example, in Texas, non-validated 15-minute usage data is recorded in meters and is then gathered from meters periodically throughout the day and then validated in a centralized meter data management system and provided on a day-after basis for customers and their respective retail supplier. Such a one-day lag is common. Customers are permitted to provision in-home devices to the meters to interrogate them more frequently for any such uses, but that data is not billing-quality data; it may serve energy management purposes quite well, but is not a substitute for billing-quality data from the utility.

Likewise it is important to distinguish between raw data and data which have been validated by the electric utility. It will be critical to attempt to avoid the confusion that could be caused by a customer's misreading of raw, non-validated data. Only verified data should be the basis for billing and other utility transactions.

Additionally, with respect to what types of data should be made available, EEI would note that customer data could include: interval usage data, historical energy usage, product details, critical event status, pricing history, customer interaction for trouble events, product sign up, and pre-pay transactions. It is not clear that any of this information should be made available, at least to third party service providers without the full knowing consent of customers. Furthermore, in order to protect consumers,

third party providers should be required to obtain some sort of state approval before they are deemed to be eligible to receive this information.

These questions aside, if the smart meter is the primary gateway, then consistent with applicable state privacy laws and regulations, consumers and their authorized third-party service providers should be able to access energy usage data, if utilities and applicable regulators determine it is prudent to deploy smart grid applications and devices.[8] Electric utilities should not be required or permitted to release customers' energy usage data to third parties[9] without the customer's affirmative authorization. Likewise, third parties should obtain explicit customer approval to resell customer energy usage data. The issues are two-fold: privacy and prudency.

The role of the States with regard to setting the conditions for access to and the privacy of utility consumer data cannot be ignored. Traditionally, privacy regulation of customer data has been the responsibility of the states. All information is furnished directly from the consumer to utilities in confidence, and it is well established that the public interest requires maintaining the privacy of that information. Access to consumer information by a third-party is only permissible with the consent of the customer. Currently, most electric utilities have their own data ownership policy in accordance with the regulations of their state regulatory authority or authorities.

Privacy concerns are not limited to smart meters. Utilities and their state regulators must also consider how to treat more general consumer information and data

[8] This includes AMI/smart meters with such "real-time" capacity (however the term "real-time" is defined).
[9] Third parties are those parties who are not under contractual obligations with a utility that include maintaining confidentiality of customer energy usage data.

that may be generated, not only by smart meters, but also by HANs and devices connected directly for third-party access. The host of devices in a customer's premises, which may potentially be connected to the HANs, to the meters, and to the Internet, raises additional privacy and security concerns for consumers, regulators and utilities. For example, private information could be gathered without the consumer's knowledge of what data is actually being collected, and then furnished to third-parties. If consumers are not fully aware of the scope of information they are consenting to disclose, then it is not clear what significance their consent to such disclosure carries. Third parties should be subject to disclosure requirements. NIST, in its *NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 1.0* (NIST Special Publication 1108),[10] recognizes that HANs present privacy issues. Accordingly, NIST has established a Privacy Sub-group of the Cyber Security Coordination Task Group to consider various privacy issues. EEI as well as other member utilities are active participants in this group.

Regardless of what information may be disclosed to third-party service providers, utilities must continue to have access and control over the data in order to optimize and maintain safety and reliability, and for the more general purpose of providing the best and most innovative services available in order to meet the needs of the consumer. Unlike third-party service providers, the legally-mandated purpose of a public utility is to give reasonable and adequate service at reasonable rates and without delay. Moreover, the public has the right to demand and receive the best available

[10] Available at http://www.nist.gov/public_affairs/release/smartgrid_interoperability_final.pdf.

service from the utility.[11] In order to meet these obligations, electric utilities must have access to individual customer energy usage data. Electric utilities need such data not only to bill customers for services and to respond effectively to billing questions. Electric utilities must also have customer energy use data to maintain the safe and reliable operation of the grid and to optimize dispatch of generation. Additionally, where customers own distributed resources (e.g., on-site generation and/or storage, on-site demand response capability), the host utility needs customer energy usage data to bill customers for standby service, to provide net metering, and to validate demand response performance for the purpose of administering capacity payments. Furthermore, electric utilities must have access to operational data[12] to plan and operate their systems in a manner that ensures safety, reliability, and efficiency. The ability of electric utilities to access, control and use this information for legitimate utility-related purposes should be in no way constrained and utilities should be permitted to recover their costs.

Cost-recovery is another issue which cannot be ignored since ratepayers will ultimately bear the cost of the Smart Grid investments. There are costs involved in deploying AMI and smart meters with real time data capability. These costs include the cost of purchasing, deploying and operating the infrastructure, as well as in certain cases, the stranded investment in existing fully functional meters which have to be replaced. In most instances the investments made by utilities will be at the distribution level of the grid, and are subject to prudency review by state regulators. These costs

[11] *See* C.J.S. Public Utilities § 6.
[12] Operational data includes data related to the operation of electric utility systems that is not customer-specific, but includes aggregated customer energy usage data.

are not insignificant[13] and no discussion of AMI/smart meter infrastructure can be complete without a discussion of how, when and from whom these costs are to be recovered. Consequently, EEI wishes to underscore that there should be no mandate for utilities to use AMI/smart meters because this decision must be made with respect to utilities' goals and in concert with applicable regulators since these expenditures must pass a benefit-cost test and be approved. Consequently, decisions regarding the timing of such investments must be made by the utilities in conjunction with state regulators.

In fact, many utilities are now filing AMI/smart meter business cases with their regulatory commissions because such expenditures must typically pass a benefit-cost test and be approved. In over 30 states, utility-wide AMI deployment to mass market customers is underway, planned, or proposed. It is expected that over the next five years, a larger percentage of mass market customers in the United States will have AMI or some type of Smart Meter in their home or small business. A large portion of the costs of AMI may be justified through operational benefits such as remote meter reading, faster outage detection, fewer truck rolls, and remote on/off service switching. There are also significant demand response benefits from dynamic pricing that may justify the AMI investment and achieve overall positive net benefits as well.

Finally, as previously alluded to, this question fails to comprehend the State ratemaking principles. Traditionally, cost of service rates only include costs

[13] Smart Grid cost estimates run as high as $75 billion. *'Smart grid' is buzz of electric industry, Obama team; power system goes digital"* chicagotribune.com, http:www.chicagotribune.com/business/nationworld/wire/sns-ap-us-smart-grid abridged,01245604.story Last visited 6/08/2009

determined to be prudent, just and reasonable. Flexibility must be built into any policies respecting the fact that cost recovery issues are dealt with at the State level based on the facts and circumstances facing each utility.

Question 4: Data Ownership and Meter Access

In Question 4 OSTP asks who owns the home usage data, and should individual consumers and their authorized third-party service providers have the right to access energy usage data directly from the meter? This is a complex question that goes beyond simplistic notions of "ownership" and "access" and is an area which has traditionally been the province of the States. As noted more fully in answer to Question 3, regardless of how each state may determine the issue of data ownership, the electric industry supports consumers' ability to authorize access to their energy usage information. At the same time, it must be recognized that the ability of utilities to access, control and use this information for legitimate utility-related purposes should be in no way constrained, and that utilities should retain the ability to recover all costs involved in obtaining, validating, and using the information derived from its equipment, including meters.

Finally, this question ignores the fact that different States currently have different regulatory structures. Certain States such as Ohio, Pennsylvania and Texas to name a few currently allow customer choice in service providers and have effectively "unbundled" various service options. These providers have to meet state criteria. Other States still have a vertically integrated utility structure and the status of these providers in those states is a question which remains to be addressed. The fact that the

nature of the utility business model varies in different states places another layer of complexity on these questions. As noted above, any policies implemented must account for and respect State regulatory rate making principles.

Question 5: Low-Income Customers

In this question, OSTP asks how low-income customers can best be served by home-to-grid technology. This inquiry is very important because too often low-income customers are left out of Smart Grid discussions. The simple answer is that there is not a particular home-to-grid technology which is best suited for low-income consumers.

However, this should not be the end of the discussion. As noted by the Office of Electricity Delivery and Energy Reliability, two of the primary purposes for implementing Smart Grid technologies are to better equip the U.S. energy infrastructure to manage current and future demands and to ensure greater reliability and capacity of the grid. All consumers, including low-income consumers, will benefit from this network optimization. Moreover, until such time as smart meters are installed and these consumers, low-income or not, take advantage of the home-to-grid technology, real time or otherwise, this will be the primary manner by which they will benefit from Smart Grid technologies. These benefits resulting from network optimization are not insignificant, but can only be delivered to the customers by their utilities. Consequently, it is imperative to do nothing which would discourage or hamper investment in Smart Grid technologies by utilities.

It is also important to note that the issue of providing services to low-income customers is much more complex than merely providing these customers with Smart

Grid technologies. In fact, while Smart Grid technologies may provide some incremental benefits, they will not address the underlying issues such as affordability faced by many such customers. Simply put, while it is important to ensure that all customers have access to Smart Grid technologies, these technologies will not specifically solve many of the issues facing low-income customers.

Question 7: Smart Grid-enabled appliances

In this question, OSTP seeks input on the appropriate standards and methods to be utilized by appliance manufacturers. EEI supports the continued efforts of NIST to develop and implement appropriate standards and methods to be utilized by appliance manufacturers. As the OSTP is aware, EISA[14] directed NIST in part to develop standards for communication and interoperability of appliances and equipment connected to the electric grid. NIST should be allowed to complete its work developing appropriate standards prior to any pronouncement from OSTP regarding what standards are the appropriate standards. EISA recognizes that the NIST process is the appropriate process to utilize to develop and implement appropriate standards and methods to be utilized by appliance manufacturers. As discussed above, EISA does not contemplate a one-size-fits-all approach. Instead, EISA directs that the standards be "flexible, uniform and technology neutral."[15]

Consumers should be permitted to rely on market competition to pick the physical communications infrastructure within the premise, similar to the way they

[14] Energy Independence and Security Act of 2007 [Public Law No: 110-140] Title XIII, Sec. 1301.
[15] See id. at Sec. 1305.

choose other services. Customers may make different choices based on availability, functionality, cost, geography and other factors.

Electric utilities are currently working with a variety of groups to develop standards. These standards development organizations should be permitted to define common messaging formats to enable the exchange of energy information. To enable application level interoperability, the electric industry is working with NIST, major appliance manufacturers and industry consortia to develop common messaging standards for smart home appliances. The industry is actively involved in efforts regarding: OpenHAN, OpenADE, OpenADR, Smart Energy Profile Over IP, and NIST's Priority Action Plans ("PAPs").

All interfaces between Smart Grid and home appliances should follow stringent data privacy and cyber security threat mitigation to protect against unauthorized access. Moreover, if manufacturers build appliances that are Smart Grid enabled then they should carry the burden of interoperability, safety and security since the utility industry has not traditionally carried the responsibility for ensuring the reliability for such devices connected to the electric grid.

Finally, OSTP asks who should pay for gateways or adapters if they are needed, the utility or the consumer. EEI believes that the issue of cost recovery is best determined by State regulators in the appropriate proceedings before each utilities State regulatory body. Moreover, cost recovery should not be limited to a choice between utilities and consumers. Under the proper circumstances, it might be fairer to all consumers to pass some of the costs on to third party service providers. OSTP ought not set or suggest the appropriate regulatory cost recovery policy. Cost recovery