

**MASSACHUSETTS GRID MODERNIZATION WORKING GROUP
REGULATORY MODEL OPTION**

Title: Competitive Suppliers: Smart Meter Deployment & Customer Data Access

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1. Summary of Regulatory Model

Regulatory Elements:	Description:
Customer-facing, grid-facing or both	Customer-Facing
Rationale for, or summary of, model	The Department of Public Utilities (DPU) would open an adjudicatory proceeding in which the electric distribution companies' (EDCs) submit proposals for smart meter deployment, which include uniform platforms and formats for access to the customer data available from such meters by customers and their Competitive Suppliers.
Regulatory Oversight:	
Utility pre-implementation filing requirement	Filing required prior to implementation
Regulatory review and approval of filing	Yes. DPU review and approval of a utility smart meter deployment and customer data access plan would occur in the context of an adjudicatory proceeding with set time frames for review and receipt of a final order to enable timely and efficient implementation
Utility request for pre-approved GM budgets	Yes
Stakeholder input	Yes
Utility reporting requirements	As determined during the DPU proceeding. Utilities should be required to periodically report on progress (e.g., budget and installation status).
Cost-Effectiveness:	
Explicit, public cost-effectiveness requirement	Yes but should include a full costs and benefits analysis, rather than just a straight cost analysis. For instance, although there may be an added cost for implementing uniform data access

¹ RESA's members include: Champion Energy Services, LLC; ConEdison *Solutions*; Constellation NewEnergy, Inc.; Direct Energy Services, LLC; GDF SUEZ Energy Resources NA, Inc.; Hess Corporation; Homefield Energy; IDT Energy, Inc.; Integrys Energy Services, Inc.; Just Energy; Liberty Power; MC Squared Energy Services, LLC; Mint Energy, LLC; NextEra Energy Services; Noble Americas Energy Solutions LLC; NRG, Inc.; PPL EnergyPlus, LLC; Stream Energy; TransCanada Power Marketing Ltd. and TriEagle Energy, L.P. The comments expressed in this filing represent the position of RESA as an organization but may not represent the views of any particular member of RESA.

² As noted in footnote 1, Constellation NewEnergy, Inc. (Constellation) and Direct Energy Services, LLC (Direct) are both members of RESA. Representatives of Constellation and Direct have been active participants in the Working Group committees and have been sharing the perspective of retail electric suppliers in that process. Constellation and Direct have now asked RESA to join with them in those efforts and to jointly submit this regulatory model option.

	platforms and formats across all of the EDCs' systems, a change in the processes for accessing customer load data will result in the following benefits: (a) simplification of the current process; (b) a consistent format of the data available; (c) improved timeliness and accuracy of pricing and billing; (d) improved quality of customer usage data; (e) reduced chance of cancel/re-bill; (f) development of a strong competitive electric marketplace; (g) encouragement of customer adoption of new solutions to meet their energy needs, including allowing customers to make demand response and energy efficiency modifications to better manage their electricity consumption and costs; and (h) reduced costs for both the utilities and suppliers.
Internal analysis by utility	
Ratemaking and Cost Recovery:	
General ratemaking (historic, future test years)	To be determined as part of DPU proceeding
Frequency of rate cases	To be determined as part of DPU proceeding
Cost recovery (e.g., base rates, trackers)	To be determined as part of DPU proceeding
Cost allocation (among customer classes)	To be determined as part of DPU proceeding
Cost assignment (e.g., to third party)	To be determined as part of DPU proceeding
Rate design	Several regulatory models propose that the EDCs should engage in new rate designs for Basic Service that include dynamic pricing options. ³ However, while RESA acknowledges that the EDCs should be able to collect the reasonable and prudent costs associated with smart meter deployment and implementing uniform data access platforms and formats as determined as part of a DPU proceeding, the EDCs should be required to maintain their existing rate designs for Basic Service and dynamic pricing options should be optional products that are offered by the competitive retail market.
Utility incentives (e.g. ROE, rewards/penalties)	To be determined as part of DPU proceeding
Performance Targets or Metrics:	
Role of performance targets	To be determined as part of DPU proceeding
Performance targets that will be used	To be determined as part of DPU proceeding

2. *Description of Regulatory Model*

Executive Summary

The Massachusetts DPU would open an adjudicatory proceeding in which the EDCs submit proposals for smart meter deployment that include uniform platforms and formats for access to the customer data available from such meters by customers and their Competitive Suppliers.

Smart meters and their related functionality as well as the level of customer data available from such meters can revolutionize how customers purchase electricity by providing customers and their providers with the information necessary to transform customer behavior. Allowing Competitive Suppliers to have real-time access to their customers' hourly interval meter data has the potential to unleash a wave of innovation capable of delivering the value and benefits to customers that are not currently available in

³ See, e.g., National Grid Demand Response Model including TVR and DLC.

Massachusetts. Many of these programs encourage load shifting, conservation and energy efficiency. By providing these programs on a competitive basis, suppliers are able to either reduce the amount of ratepayer dollars needed to fund these programs or to offer additional programs that supplement those funded by ratepayers.

One need only look to other jurisdictions where advanced metering infrastructure (AMI) has been fully deployed for examples of the types of products and services that Competitive Suppliers are offering to smart meter enabled customers. Competitive Suppliers are now offering products in other markets that include daily customer alerts via email or text messages relating to a customer's consumption that notify the customer that he or she is approaching or has exceeded certain customer-defined usage levels. Competitive Suppliers send weekly update emails to their customers that inform customers of their weekly usage, cost per kilowatt hour, and projected bill at the end of the billing period, as well as usage comparisons with other customers in their neighborhood.

Further, the ability to access real-time customer data available from smart meters enables suppliers to offer consumers price responsive demand (PRD) products as well as other new and innovative products.⁴ For example, in states where retail market structures provide the appropriate environment, the following products have been offered by Competitive Suppliers (rather than the incumbent utility):

- **“Power-to-Go”** – a smart meter-based technology that allows customers to exercise a far greater level of control in their purchasing and consumption of electricity than would be available from a traditional regulated utility.
- **“Free Power Saturday” Plan** – with the use of smart meter technology the program is designed to encourage and empower residential consumers to reduce electricity consumption during higher-priced weekly peak hours. Traditionally, weekends are considered part of off-peak periods, when electricity rates, consumption and demand are low. Industry research indicates that load shifting from on-peak to off-peak electricity consumption will reduce market costs translating into beneficial savings.
- **“Home Energy Manager”** – a smart-meter compatible home energy manager that will allow homeowners an unprecedented level of control over their home energy usage.

PRD products encourage customer adoption of new solutions to meet their energy needs, including allowing customers to make demand response and energy efficiency modifications to better manage their electricity consumption and costs. However, any innovative solution that involves shaping consumer behavior by having them respond to immediate price signals and receive appropriate credit for actions taken to reduce or avoid consumption in response to those signals depends on having real-time access to accurate customer data in a standardized format.

The current method of data dissemination from EDCs varies widely and can encompass anything from a manual process, including issuing spreadsheets, to one form or another of Electronic Data Interchange (EDI). Each EDC implements the method of access and data format differently. To ensure that innovative solutions can be created for customers, an EDI policy that defines a standard IP (internet protocol) based access in a common language or data standard (XML) would provide the most efficient and cost-effective solution. These EDI standards should also include key data elements to help

⁴ See Global Power Best Practice Series, *Time-Varying Dynamic Rate Design* (July 2012), at 9.

Competitive Suppliers effectively prepare and structure pricing offers for their customers (e.g., customer's voltage level, etc.).

An internet protocol based system would make programming easier than traditional code based programming and could reduce the amount of intervention required by EDC personnel as the information is populated directly from customers' meters into the web based system and accessed directly by the supplier;⁵ thereby, reducing programming/data entry costs and the potential for errors. By using an internet based system, the transmission of customer data can also be protected through SSL (Secure Sockets Layer), which is the standard security technology for establishing an encrypted link between a web server and a browser to ensure that all data passed between the web server and browsers remain private.

A policy should also be in place that promotes customer ownership of data and the requirement of customer consent to securely disseminate data. However, customers should be free to choose the method by which they authorize the release of their information and Competitive Suppliers (not the EDCs) should be responsible for maintaining records of those authorizations subject to audit by the DPU.

Regulatory Oversight

The DPU would open an adjudicatory proceeding (with set time frames for review and receipt of a final order to enable timely and efficient implementation) in which the EDCs submit proposals for smart meter deployment that include uniform platforms and formats for access to the customer data available from such meters by customers and their Competitive Suppliers. Interested stakeholders would then have an opportunity to engage in discovery, comment on the EDC proposals and offer alternate proposals.

Cost Effectiveness

Evaluation of the cost-effectiveness of the regulatory model should include a full cost and benefit analysis, rather than just a straight cost analysis. For instance, although there may be an added cost for implementing uniform data access platforms and formats across all of the EDCs' systems, a change in the processes for accessing customer load data available from smart meters will result in the following benefits: (a) simplification of the current process; (b) a consistent format of the data available; (c) improved timeliness and accuracy of pricing and billing; (d) improved quality of customer usage data; (e) reduced chance of cancel/re-bill; (f) development of a strong competitive electric marketplace; (g) encouragement of customer adoption of new solutions to meet their energy needs, including allowing customers to make demand response and energy efficiency modifications to better manage their electricity consumption and costs; and (h) reduced costs for both the utilities and suppliers.

Ratemaking & Cost Recovery

The EDCs should be able to collect the reasonable and prudent costs associated with smart meter deployment and implementing uniform data access platforms and formats as determined as part of a DPU proceeding. However, any ratemaking structure should continue to maintain a paradigm that would allow for a market structure in which Competitive Suppliers concentrate on what they do best - providing

⁵ See, e.g., Green Button (<http://energy.gov/data/green-button>), which is an XML-based format supported by the Department of Energy that allows customers "to securely download their own easy-to understand energy usage information from their utility or electricity supplier." Green Button also includes functionality that would allow customers to authorize a third-party, such as the customer's Competitive Supplier, to receive direct access to the data.

market based generation supply pricing and related service options - and the EDCs concentrate on what they do best - providing reliable and cost effective transmission and distribution services.⁶

To do so, the competitive market should be provided the opportunity to offer solutions before creating regulatory programs that impose greater costs on all ratepayers, especially low income customers, that can create unintended barriers to high value competitive offerings. In particular, dynamic pricing options should be optional products that are offered by the competitive retail market⁷ and the EDCs should be required to maintain their existing rate designs for Basic Service⁸ rather than engaging in new Basic Service rate designs that include dynamic pricing.⁹

3. *Strengths and Weaknesses of the Regulatory Model (compared to status quo)*

Strengths

As part of its proceeding, the DPU intends to examine its policies “to ensure that electric distribution companies adopt grid modernization technologies and practices in order to enhance the reliability of electric service, reduce electricity costs, and empower customers to adopt new electricity technologies and better manage their use of electricity.”¹⁰ Smart meter deployment with uniform platforms and formats for access to customer data that allow Competitive Suppliers to offer innovative pricing and PRD products satisfy all of these criteria.

1. **Enhanced Reliability:** Smart meters and the associated advanced communications capabilities associated therewith will allow the EDCs to become aware of and respond to outages more quickly, leading to enhanced reliability.
2. **Reduce Electricity Costs:** The information available from AMI or related meter technologies “offers the potential to save customers money by shifting demand to off-peak periods, which will decrease ratepayers’ bills and avoid investments in new generation, transmission and distribution resources.”¹¹

⁶ Chapter 164 of the Acts of 1997, *An Act Relative to Restructuring the Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Enhanced Consumer Protections Therein*, at § 1(c) (“ratepayers and the commonwealth will be **best served by moving** from (i) the regulatory framework extant on July 1, 1997, in which retail electricity service is provided principally by public utility corporations obligated to provide ultimate consumers in exclusive service territories with reliable electric service at regulated rates, **to (ii) a framework under which competitive producers will supply electric power** and customers will gain the right to choose their electric power supplier.”) (emphasis added).

⁷ See *Developments in Default or Basic Service Pricing in Restructuring States* (Alexander, B. Apr. 24, 2013) (indicating that, in restructured states, “there appears to be a consensus that time varying rates . . . are an optional service that should be provided in the retail market.”).

⁸ See *Time Varying Rates (TVR) Brainstormed Potential Principles/Recommendations*, dated May 2, 2013, at 3 (Office of the Attorney General recommending that the current policy to ensure stable default service rates should be continued).

⁹ To the extent the EDCs are required to offer time varying rates, their existing time-of-use rates satisfy the requirement.

¹⁰ DPU 12-76, *Investigation by the Department of Public Utilities on its own Motion into Modernization of the Electric Grid*, Vote and Order Opening Investigation, dated October 2, 2012, at 1.

¹¹ *Id.* at 2.

3. Customer Empowerment: PRD products encourage customer adoption of new solutions to meet their energy needs, including allowing customers to make demand response and energy efficiency modifications to better manage their electricity consumption and costs.
4. Innovation: In jurisdictions where AMI has been fully deployed along with ready access to hourly interval customer usage data, Competitive Suppliers are now offering and customers are adopting a myriad of innovative products.
5. Environmental Benefits: By creating a regulatory structure that provides the competitive market with the opportunity to offer products and services to customers that also meet the policy objectives of the Commonwealth, including facilitating “the integration of distributed generation resources and new technologies such as renewable energy technologies, combined heat and power, energy storage, and electric vehicles”¹² and reducing greenhouse gas emissions by “empowering customers to use energy more efficiently,”¹³ suppliers are able to reduce the amount of ratepayer dollars needed to fund these programs.
6. Additional Benefits: Improved and timely access to customer data will also result in the following other benefits: (a) simplification of the current process; (b) a consistent format of the data available; (c) improved timeliness and accuracy of pricing and billing; (d) improved quality of customer usage data; (e) reduced chance of cancel/re-bill; (f) development of a strong competitive electric marketplace; and (g) reduced costs for both the EDCs and suppliers.

Weaknesses

1. Full scale AMI deployment can be a lengthy and costly process. However, use of technologies that can interface with the existing infrastructure can reduce implementation time and costs.
2. While the Department should take into account the findings of the EDCs’ smart meter pilot programs mandated by the Green Communities Act,¹⁴ it should not wait until those programs are complete before moving forward with its grid modernization efforts. Rather, it should also examine the myriad of other, well-designed smart meter programs that have been successfully implemented.
3. There will be short-term costs associated with creating uniform platforms and formats for access to customer data. However, an internet protocol based system would make programming easier than traditional code based programming and could reduce the amount of intervention required by EDC personnel as the information is populated directly from customers' meters into the web based system and accessed directly by the supplier; thereby, reducing programming/data entry costs.

¹² *Id.* at 4.

¹³ *Id.*

¹⁴ Chapter 169 of the Acts of 2008, *An Act Relative to Green Communities*, at § 85.