STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission To Investigate Competitive Metering For Natural Gas Service	Case 02-M-0514
In the Matter of Competitive Metering	Case 00-E-0165
In the Matter of Competitive Opportunities Regarding Electronic Service	Case 94-E-0952

INITIAL COMMENTS OF THE DEMAND RESPONSE AND ADVANCED METERING ("DRAM") COALITION

I. INTRODUCTION

On November 8, 2004, the Commission issued its Notice Soliciting Comments from interested parties with respect to certain questions regarding competitive metering. The Commission solicits comments from parties to gauge the current state of competitive metering and explore the end state of the market. DRAM appreciates the opportunity to comment and, given that its members have developed, manufactured, installed, and operated many millions of advanced metering devices on electric and gas customers of all sizes, we feel we bring a unique, experienced perspective on the issue New York is investigating.

DRAM is an educational and policy coalition that consists of interest groups, demand response technology providers, and advanced metering companies. Its members have deployed over 25 million advanced electric and gas meters (fixed-network automatic meter reading devices, along with the communications networks) in the U.S. and internationally, and also have experience in providing advanced metering services (operation of communications networks, collection of metering data, management of metering data, and delivery of metering data to utility billing systems). DRAM's members include two of the three largest electric meter manufacturers in the world. DRAM members have operated metering services as contractors to utilities and as independent meter service providers and meter data management agents in competitive metering markets. DRAM members have been individually been active in utility proceedings regarding metering issues across the U.S. and internationally, including as Chair of one of New York's working groups in Phase II of the competitive electric metering collaborative, and have testified before the U.S. Congress on metering issues. DRAM's goal is to inform policymakers.

II. GENERAL COMMENTS

We begin with general comments. First, per the Commission's request, we define "advanced metering or enhanced metering."[1] Second, DRAM members are strong supporters of competitive markets, but the Commission stated preference for electric and gas services to be "competitive wherever feasible"[2] must be measured against the extensive evidence that exists showing that competition in most metering services is not feasible. With the exception of manual meter reading in the U.K., every jurisdiction that has tried to make other metering services competitive has failed. Third, we explain advanced metering's underlying scale economics and how competition in metering thwarts the ability of consumers to benefit from those scale economies. Thus, it is our opinion that competitive advanced metering is a direct obstacle to the Commission's

[1] - NY PSC, Notice Seeking Comments, Cases 02-M-0514, 00-E-0165, and 94-E-0952.
[2] - *Ibid* at 6.

interest in “networks that can gather and transmit data beyond monthly aggregated consumption and demand.”[3]

a. Advanced Metering Definition

Our definition of “advanced metering” incorporates specific functionality as specified in several regulatory proceedings, including Pennsylvania, Arizona, California, the U.K., Ontario (Canada), and Victoria (Australia). Advanced metering is metering that enables the more frequent measurement of detailed, time-based metering information and the more frequent collection and transmittal of such to various parties. Advanced metering requires a “fixed” communications network that provides continuous access to the meter and enables the recording and retrieval of at least hourly interval electric data (quarter-hourly for large electric customers, typically above 200 kW) or daily gas data (hourly for large). The network also enables the collection and immediate transmission of event data, such as an outage alarm, a power-on verification, and an energy theft alarm (meter removal). Such networks also support outbound communications, such as load control and in-home or in-building customer displays. For large-scale deployments, such networks operate over power-line carrier or radio frequency, though trials or small-scale deployments (including traditional load research and large commercial customer metering) use telephone, cable television lines, and even satellite communications. See Figure 1.

Advanced metering brings with it numerous consumer benefits. The residential and small business customer working group developed an extensive list, shown in Table 1 below.[4]

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[3] - *Ibid* at 5.

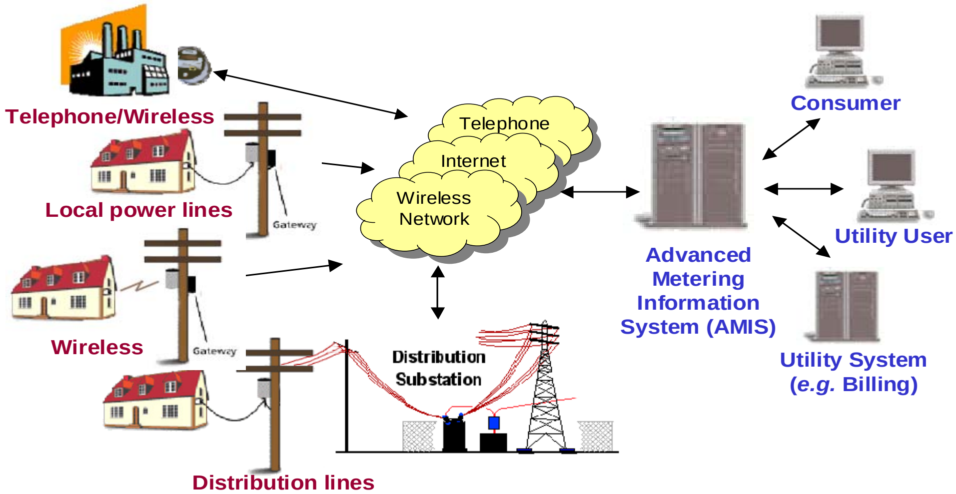

Figure 1 – Advanced Metering Systems

System Operation Benefits
Reduction in Meter Readers, Mgmt & Admin Support (and associated costs)
Field service savings (turn-on's / turn-off's)
May provide ability to ID active accounts for metered accts not being billed, broken meters, wrong multipliers
Some energy theft easier to identify
Phone Centers - Reduced FTEs in the long term due to anticipated lower cust call volume (estimated / disputed bills)
Possible productivity enhancement / rate changes simplified / possible reprogram rather than mtr change
Outage management benefits (momentary checking for PG&E)
Better meter functionality / equipment modernization
Remote service connect / disconnect
Meter accuracy
System planning design efficiency
Customer Service Benefits
Improves billing accuracy - provides solution for inaccessible / difficult to access sites - eliminates "lock-outs"
Early detection of meter failures
May provide additional opportunity to inspect panel, reattachment of unsecured mtr boxes, ID any unsafe conditions
Improves billing accuracy - reduced estimated reads / estimated billing - reduced exception billing processing
Customer energy profiles for EE / DR targeting (marketing)
Customer rate choice / new rate options
Customized billing date
Energy Information
Enhanced billing
Load Survey
On-line bill presentment with hourly data / more timely and accurate information about electricity / info access
Lower customer bills
Value to customers of more timely & accurate bills
Demand Response Benefits
Procurement cost reduction - deferral of capacity, consumption shift to off-peak and/or reduction, lower net emissions
System reliability adder (capacity buffer)
Dynamic fuel switching / Dynamic integration of conventional and distributed supplies
Avoided / deferred transmission and distribution (T&D) additions / upgrade costs
Management and Other Benefits
Reduced equip and equip maint costs (software maint & system support, handheld reading devices, uniforms, etc.)
Reduced misc. support expenses (including office equipment and supplies)
Reduced battery replacement / calendar resets / meter programming
Reduced meter inventories / inventory management expenses due to expanded uniformity
Summary billing cash flow benefits (existing customers)
Possible reduction in "idle usage", meter watt losses - at the very least quicker resolution of idle usage episodes
Possible new rev source / new business ventures / new products & srvs / web based interval & power-quality data
May facilitate ability to obtain GPS reads during mtr deployment-improving Franchise & Utility Users Tax processes
Tariff planning - more flexibility of rate contacts & options within standard customer rate classes / dynamic tariffs
Potential for Federal investment tax credits

Table 1 – Advanced Metering System Benefits

[4] - Final Report, Cost-Benefit Subgroup, Working Group 3, CPUC Proceeding on Advanced Metering and Demand Response, R.02-06-001, March 11, 2004.

b. Except for Manual Meter Reading, Competition in Metering Services is Not Feasible and Has Failed in Every Jurisdiction in Which It Has Been Attempted

Many jurisdictions have investigated or implemented competitive advanced metering and none have found such competition to work. The U.K. has had extensive experience with competitive advanced metering, going back to 1994, when metering was made competitive for all customers with peak demands above 100 kW. Since 2000, all metering (meter ownership, meter installation, meter maintenance, meter data collection, meter data management) has been competitive for all customers, including residential customers. As well, the U.K. has robust competition in both electricity and gas, with 51 percent of residential electric and 47 percent of residential gas customers having switched suppliers as of April 2004.[5] Nevertheless, the only portion of the market in the U.K. that has experienced significant competition is in manual meter reading.

Staff of the Virginia SCC surveyed the status of metering competition in several states in 2002[6] and reported the following:

> - Arizona: Commission approved competitive metering, including customer meter ownership; the local distribution company cannot own the meter of a direct access customer. As of August 3, 2001, the Commission had certified nine competitive generating service providers to "resell" to their customers those metering services provided by a subcontracted meter service provider ("MSP"), and had certified eight non-generating entities to provide metering services to

[5] - Ofgem, "The State of Competition in Domestic Gas and Electricity Supply," April 2004.
[6] - Virginia SCC, "Staff Report Presenting Proposed Rules for Competitive Electricity Metering," Case No. PUE010298, February 14, 2002.

competitive service providers. However, as of January 1, 2002, there were no direct access customers and, further, no competitive MSPs had been certified to contract directly with customers.

- Delaware: As part of the settlement agreement in the Conectiv/Pepco merger, Delmarva agreed to work in good faith with the Delaware Commission and other interested parties to initiate a pilot program for approximately 250 residential or small commercial customers that would test the appropriateness of larger-scale initiatives or offerings with respect to real-time metering or advance-pay metering, or other similar metering technologies.

- Illinois: Commission approved competitive metering January 2, 2001, and IMServ North America was approved as a licensed meter service provider on March 23, 2001, but only in Commonwealth Edison's service territory. However, there were no customers taking MSP service as of January 1, 2002.

- Maine: Legislation revised to revoke the previously legislated deadline and to give the Commission discretion to implement competitive metering through rulemaking procedures. Commission has not set a timetable to define or implement competitive metering. Customers may request an interval meter subject to reasonable incremental costs.

- Maryland: Commission adopted a phased approach to competitive metering beginning January 1, 2002, with access to meter data on a near real-time, on command basis and allowing large-customer or third-party ownership of the meter.

- Massachusetts: Determined that metering services should not be unbundled. Interval metering and access to data must be provided at the customer's request.

- New Hampshire: Commission determined that metering services should not be unbundled.

- New Jersey: Due to an impasse in the competitive metering work group process during 2001, the Board of Public Utilities is planning a separate formal proceeding in 2002 to consider whether to implement competitive metering. In part during the work group process, the local distribution companies refused to provide competitive service providers read-only access to the utility meter absent a formal mandate relative to competitive metering services.

- Oregon: Legislation specifies that competitive metering may be implemented at the Commission's discretion, but no activities are underway to implement competitive metering or to allow third-party access to the billing meter.

- Pennsylvania: Commission-approved settlements with the local distribution companies recognize competitive metering; however, there were no licensed MSPs as of January 1, 2002. Customers may request interval metering and access to interval data is required.

In all of these cases, as well as New York, few advanced meters have been installed, reaching far less than one percent of the eligible population. Also, while opening the markets did attract new competitors to the meter market, those new entrants have been unable to compete. For instance, in California, the Commission certified 15 Meter Service Providers.[7] However, even before the state's competitive retail electricity market collapsed in late 2000, most of these providers had exited the market or had ceased activity. In those jurisdictions with metering competition that allow utilities to participate, the vast majority of advanced meters have been provided and installed by the distribution utilities, including for Direct Access customers in California.

In a fall 2004 stakeholder process in Ontario, Canada, the participants agreed that the best way to provide advanced metering ("smart" in the Ontario lexicon) was

[7] - Meter Service Providers Certified by the CPUC, "California Public Utilities Commission Website" http://www.cpuc.ca.gov/static/industry/electric/electric+restructuring/metering/msps.htm, October 10, 2001.

to leave metering with the Local Distribution Companies. The process resulted in a Draft Plan to implement the Energy Minister's directive to provide "smart" meters to all residential and commercial customers in Ontario by 2010 in order to promote demand response and energy conservation, including time-of-use or critical peak pricing.

c. Advanced Metering Has Substantial Scale Economies Making It Infeasible for Competitive Providers to Provide Advanced Metering For Any But The Very Largest Customers

Advanced metering economics are such that, to deliver the benefits and savings of advanced metering to consumers, policymakers must enable long-term financing of meters and take advantage of utility scale economies. In October 2000, the U.K. Office of Gas and Electricity Markets ("Ofgem"), conducted a market survey to assess the status of competitive and advanced metering. Ofgem found that the major barrier to the installation of advanced meters in a competitive metering market is the fear of customer switching: customers, electricity suppliers, and meter operators all feared paying for the capital and installation cost of a new meter, then losing the investment upon the customer switching to a new energy supplier using a new meter.[8] Electronic meters, including installation costs, are typically depreciated over 15 to 20 years, much longer than a customer would remain with the same supplier. Ensuring the metering franchise for New York's utilities would eliminate the fear, allow the financing entity to depreciate the equipment and installation over several years, and provide the essential scale economies.

[8] - *Op. cit.*

Another item U.K. meter suppliers complained about was a "lack of customer density."[9] This is because universal metering enjoys significant scale economies through density: it is cheaper to install, maintain, and read (both manually and remotely) meters that are physically close together than meters that are dispersed. The "Cost Impact of Competitive Metering in New York State" report prepared for the New York PSC reported that one-by-one installation costs six times more than contiguous installation for residential meters, and eight times more for commercial meters.[10] And one-by-one, competitive customer acquisition costs vastly increase deployment costs. Utilities already have the customer relationship, so their customer contact costs are at least an order of magnitude less than the costs for competitive providers. Cost-effective deployment of any advanced meters, especially for small commercial and residential customers, requires capturing of these scale and scope economies. Without universal utility deployment, small, low-income customers are likely never to have the benefits and opportunities of advanced metering.

III. SPECIFIC COMMENTS

DRAM's responses to the Commission's specific questions listed in the "Notice Seeking Comments" are as follows:

Competitive Metering

1. The threshold for the provision of competitive electric metering services is currently set at demands of 50 kW and above. Should this threshold level be retained or revised? If the level should be revised, indicate how and why.

[9] - *Op. cit.*

[10] - "Cost Impact of Competitive and Network Metering in New York State – Final Report," Arthur Andersen for New York Department of Public Service, November 1998.

To the extent the Commission desires to promote the availability of advanced metering to energy consumers, the threshold should be raised to 500 kW. The reason is that such customers have large energy bills and are attractive for competitive metering suppliers to serve, even in the absence of scale economies. To the extent metering has been provided by competitive providers in jurisdictions allowing it, the vast majority of instances have been customers above 500 kW (except for manual meter reading of existing meters, as noted above).

2. Although the June 1999 Order provided for electric meter ownership by entities other than utilities, very few meters have actually been purchased. Why has this been the case? Should the existing policy on electric meter ownership be modified in some way? If so, how, why and when? If not, why not?

Non-utility ownership of meters raises costs and risks that far outweigh the potential savings. As noted above, a competitive supplier may not retain a customer for more than one or two years; except for the largest customers, it is virtually impossible to amortize the meter costs over such a short time period. Even if the supplier pulled out the meter when losing the customer, the installation and removal costs are too high. In the U.K., suppliers are required to offer to sell the existing meter to the new supplier, yet this rule has not resulted in significant changes in meter ownership. Finally, having multiple parties involved in the meter can cause significant problems. Arizona Public Service found the following:[11]

> The paper concludes that electric metering remains a natural monopoly service indistinguishable from other distribution functions. Promoting competition in electric metering introduces new inefficiencies into the system and

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[11] - APS, "Policy Considerations for Retaining Regulated Services," Prepared for Arizona Commerce Commission Unbundling Working Group, November 25, 1997. Available at http://www.cc.state.az.us/working/append-c.htm

> higher transaction costs, and it could threaten reliability and safety. Such competition could likewise interfere with the broader competition in electric generation, which is clearly the most likely source for any significant gains in overall efficiency. Finally, competitive electric metering presents a number of administrative and regulatory issues that will also translate into higher costs for electric consumers.

3. Some utilities provide access to interval metered data to their largest electric customers via the internet for a fee. Should utilities be precluded from providing this or similar services to large and/or mass market customers? If utilities are permitted to offer these services, how should they be priced?

Utilities should be permitted to offer these services to mass market customers, since such customers would otherwise not have economic access to such services. The services should be priced to recover the utility's costs to provide the service, including a reasonable return to investors.

4. Real time electric pricing is under consideration in a separate proceeding (Case 03-E-0641). Because advanced electric metering is required to implement real time pricing, are there changes in competitive metering policies that may promote further expansion of real time pricing?

Policies that promote the availability of advanced metering to consumers will promote further expansion of real time pricing (or related forms such as critical peak pricing that are simpler for consumers). Such policies should provide for cost recovery to utilities deploying advanced metering to their customers. In addition, the threat of competition in manual meter reading should be removed, to the extent the utility provides advanced metering. This would allow the utility to amortize the cost of metering over 15 to 20 years, the typical period for utility-owned electronic meters, thus making advanced metering far more economical.

5. Has the cost of providing more technologically sophisticated meters to larger commercial and industrial customers increased, decreased or remained the same compared to estimates provided in the June 1999 Order? Has the cost of deploying advanced metering devices to customers with lower usage decreased since 1999? Is it expected to decrease in the near term? Is it feasible, from a cost perspective, to consider deployment of enhanced electric metering devices to customers with demand profiles below the 50 kW established?

The cost of providing more technologically sophisticated meters to larger commercial and industrial customers has not changed significantly since 1999. While electronics costs generally decline rapidly over time, three factors will continue to prevent meter costs for large customers from coming down significantly. First, the volumes are insufficient. The entire market for polyphase meters in the U.S. is only five million points. Even if 100% of the market were to turn over in five years and no new competitors entered the market beyond the five or six active current players, the annual volumes would be less than 200,000 units per manufacturer; significant savings require many millions of devices sold by each manufacturer. Second, meters require industrial components to be able to withstand temperatures up to the 85 degrees centigrade specified by ANSI standards. These components are significantly rarer and more costly than commercial-grade components used in all consumer electronics. Third, over the 15 to 20-year life of an advanced metering system, a major portion of the cost is labor (installation, maintenance, handling data problems, etc.), and labor costs are increasing.

As for deploying advanced metering to mass market customers, such deployment is clearly feasible. Over 35 million electric and gas advanced metering devices and corresponding communications networks have been deployed already, with various jurisdictions deciding to add a similar amount over the next five to six years (see Table

2). In California's advanced metering proceeding, the utilities have been ordered to file full-scale deployment plans on March 15, 2005, and the state anticipates a decision late this year.

Utility	Type	Technology	Quantity	Install Completed
U.S.				
Kansas City Power & Light (MO)	Electric	Wireless	400,000	1996
Duquesne Light (PA)	Electric	Wireless	580,000	1998
Ameren (MO)	Electric & Gas	Wireless	1,400,000	1999
Xcel Energy (MN)	Electric & Gas	Wireless	1,400,000	1999
Puget Sound Energy (WA)	Electric & Gas	Wireless	1,500,000	2000
United Illuminating (CT)	Electric	Wireless	320,000	2000
Indianapolis Power & Light (IN)	Electric	Wireless	470,000	2000
Exelon (PA)	Electric & Gas	Wireless	2,100,000	2002
Wisconsin Public Service (WI)	Gas	Wireless	200,000	2003
Wisconsin Public Service (WI)	Electric	Distribution line carrier	650,000	2004
PPL (PA)	Electric	Distribution line carrier	1,300,000	2004
JEA (FL)	Electric & Water	Wireless	600,000	2005
WE Energies (WI)	Electric & Gas	Wireless	1,000,000	2005
Hundreds of Small Utilities	Electric & Gas	Various	5,000,000	2004
International				
ENEL (Italy)	Electric	Power line carrier	30,000,000	2005
PREPA (Puerto Rico)	Electric	Distribution line carrier	1,400,000	2006
Sweden	Electric	Wireless & power line carrier	5,200,000	2009
Ontario (Canada)	Electric	To be determined	5,000,000	2010
Victoria (Australia)	Electric	To be determined	2,500,000	2013

Table 2 – Major Advanced Metering Installations

Open Architecture Framework

6. Metering communications systems and meter standards based on an open architecture framework that promotes interchangeability are prerequisites for an effective competitive metering environment to exist. The American National Standards Institute (ANSI), among others, has developed some standards in this area. Is metering equipment and metering communications software available for statewide deployment in New York to make possible system-wide uniformity in data accessibility and communication using products from multiple developers? Are there standards the Commission could adopt in the short term that would support its preference for statewide compatibility in metering hardware and/or software?

Current data exchange general standards and technologies, such as XML, ftp, and https make data exchanges at the system level (i.e. between software applications running on computer data servers) far easier than in the past. Adoption of such general standards would promote statewide compatibility and communication using the products of multiple developers. Adoption of data exchange standards within meter communication networks, such as the protocol between a meter communications module and a local area network node, is more complex and more challenging. In addition, standards at the device level may not be necessary, provided data exchange is open at the system level as described.

Competitive Metering Programs

7. Currently, there is one competitive electric metering pilot, including time-of-use pricing, in New York that serves residential customers. While the utility owns the meters and provides meter services, such as installation and maintenance, a competitive entity provides meter data services. If successful, should this pilot be expanded and/or emulated in other utility service territories? What advantages might result from expansion of the pilot and/or its emulation in other utility service territories?

DRAM is not familiar with the details of this pilot. As noted above, for consumers to have economic access to advanced metering, it is essential that the scale economies be captured, and this is most easily done by retaining metering as part of the distribution utility's franchise (the *quid pro quo* being that the utility does, indeed, provide advanced metering to its customers with reasonable cost recovery).

8. In the Retail Energy Markets Policy Statement, the Commission encouraged parties to consider pilots and other programs examining advanced electric metering and time-of-use pricing arrangements for residential and small commercial customers. In doing so, the Commission cited the competitive advanced metering and pricing pilot mentioned above. In what other ways could competitive metering be explored by the use of pilots or other programs?

No comment.

9. Competitive metering, as defined by the June 1999 Order, includes 1) meter ownership, 2) meter installation and maintenance (MSP services), 3) meter reading and data services (MDSP services). If provided competitively, what value do each of these hold for residential and small commercial customers? Which of these is expected to be most useful in serving residential and small commercial customers?

As noted above, none of these services, with the exception of manual meter reading, has been shown to be economically feasible for residential and small commercial customers. Since competitive providers are unable to make money providing these services, the services would not be provided, and there would be no value to residential and small commercial customers.

EDI Protocols

10. EDI is used by utilities to provide ESCOs with certain meter characteristics and customer's consumption information. No EDI standards are established for the exchange of either detailed meter characteristics or usage data between competitive MDSPs and utilities or ESCOs. Is lack of EDI for interval data a barrier to data transfer for billing purposes and/or an impediment to the advanced metering pilots and other programs contemplated by the Commission? Are there other alternatives that might be employed for the exchange of meter data?

See response to Question 6, above.

11. In June 2004, Niagara Mohawk submitted proposed EDI transactions for competitive metering. How do the transactions proposed by Niagara Mohawk advance or impede competitive metering in New York?

No comment.

Technologies for Communicating Metering Data

11. In June 2004, Niagara Mohawk submitted proposed EDI transactions for competitive metering. How do the transactions proposed by Niagara Mohawk advance or impede competitive metering in New York?

No comment.

Technologies for Communicating Metering Data

12. Some New York utilities are, or propose, deploying automated meter reading (AMR) technologies in concentrated areas (saturated method) in their service territories. Does saturated AMR impact the current and future development of competitive metering? If so, are there methods of deploying saturated AMR technology that would mitigate or eliminate any potential impact on competitive metering?

As noted above, competitive metering providers cannot make money (except for manual meter reading). If competitive providers could make money, then the availability of advanced metering from the utility would remove the opportunity for a competitive provider to offer a customer a higher service level as an enticement to switch metering providers. However, since competitive metering for mass market customers is not feasible anyway, saturated AMR is not impacting the development of competitive metering .

13. Large scale deployment of AMR technology in New York State is generally based on radio frequency (RF) transmission and reception devices, with transmitters built into or added on to meters communicating data to hand-held or vehicle-mounted receivers. The data collected is restricted primarily to monthly aggregated consumption and, sometimes, monthly maximum demand information. Does this data restriction limit future use of more sophisticated pricing or load management programs? Can RF AMR technology support time-of-use (TOU) data and pricing? What other AMR technologies might be considered for widespread use in New York to support competitive markets for energy?

Yes, AMR technologies without a fixed network have limited capability, essentially solely replacing manual meter reading. These are known as drive-by/walk-by technologies. The drive-by/walk-by technologies can provide TOU data, *but only if the meter is replaced with a TOU meter*, in addition to having the RF transmitter installed on the meter. Drive-by/walk-by technologies cannot support real-time pricing (including forms such as critical peak pricing or conservation credit pricing), outage alarms, restoration verification, on-demand meter reads, load control, in-home displays, and other advanced metering functions.

The critical feature needed to support advanced metering functions is the availability of a fixed network. Whether the network is RF, power line carrier, or some other technology is not the differentiating factor. Instead, the meter must be connected to the communications network continuously. Also, because wholesale prices in a competitive electricity market change hourly (and daily in a gas market), meters that can fully support competitive markets for energy must support hourly or daily data for electricity and gas, respectively.

14. BPL and other technologies that allow for two-way communication with meters have developed significantly during the past five years. Would BPL and these other technologies support real time pricing (RTP) and load management programs on a broader scale than currently implemented in New York? What type of communications network for metering data should be pursued in New York to promote RTP, TOU pricing, load management, and other potential competitive offerings in the future? Is it possible to move forward with AMR today in such a way as to avoid discouraging the development of more sophisticated networks?

While BPL has important promise for providing broadband communications to consumers, it does not have any significant effect on metering data communications. As seen in Figure 1, metering data communications includes a "wide area network" (WAN) and "local area network" (LAN). Meters are part of the LAN and transmit data to a concentrator (which can be a special meter as well), which then sends the data over a WAN to the Advanced Meter Information System (AMIS) (sometimes called a Meter Data Management System, or MDMS). BPL modems are much more complex and expensive than the LAN devices now available for meters, while offering no essential new capability. BPL modems have much higher data transfer rates, but currently available devices already have sufficient data transfer rates for the limited amount of data a meter can generate.

However, even though BPL does not make sense in the LAN, BPL is a fine option for the WAN. As seen in Figure 1, WAN technologies include telephone, wireless (RF – this is typically data over an existing digital cellular phone network), and the Internet. BPL can easily provide the WAN link, but BPL must stand on its own economics and compete with other WAN technologies. Also, since the WAN is well under 10 percent of the total communications cost, even if BPL were significantly less expensive than other WAN options, BPL would have no significant effect on the total cost of meter communications.

Any fixed communications network for metering data may be pursued in New York to promote RTP, TOU pricing, load management, and other potential competitive offerings in the future. The utilities have significant expertise in metering communications and may be relied upon to select the technology. In promoting these offerings, the PSC should focus on specifying functionality rather than specifying any specific technology. The Ontario Draft Plan takes this approach. As another example, here is the functionality specified by the California PUC:[12]

> the AMI system analyzed should support the following six functions:
>
> a. Implementation of the following price responsive tariffs for:
>
>   (1) Residential and Small Commercial Customers (200kW) on an opt out basis:

[12] - Assigned Commissioner Ruling, Proceeding R.02-06-001, February 19, 2004.

(a) Two or Three Period Time-of-Use (TOU) rates with ability to change TOU period length;

(b) Critical Peak Pricing with fixed (day ahead) notification (CPP- F);

(c) Critical Peak Pricing with variable or hourly notification (CPP-V) rates;

(d) Flat/inverted tier rates.

(2) Large Customers (200 kW to 1 MW) on an opt out basis:

(a) Critical Peak Pricing with fixed or variable notification;

(b) Time-of-Use;

(c) Two part hourly Real-Time Pricing.

(3) Very large customers (over 1 MW) on an opt out basis:

(a) Two part hourly Real-Time Pricing;

(b) Critical Peak Pricing with fixed or variable notification;

(c) Time-of-Use Pricing.

b. Collection of usage data at a level of detail (interval data) that supports customer understanding of hourly usage patterns and how those usage patterns relate to energy costs.

c. Customer access to personal energy usage data with sufficient flexibility to ensure that changes in customer preference of access frequency do not result in additional AMI system hardware costs.

d. Compatible with applications that utilize collected data to provide customer education and energy management information, customized billing, and support improved complaint resolution.

e. Compatible with utility system applications that promote and enhance system operating efficiency and improve service reliability, such as remote meter reading, outage management, reduction of theft and diversion, improved forecasting, workforce management, etc.

f. Capable of interfacing with load control communication technology.

15. Competitive metering consists of three separate cost areas: meter ownership, meter services, and meter data services. Assuming utilities install AMR technology, are competitive concerns raised when the costs of AMR initiatives are assigned to meter ownership, and the benefits and cost reductions are reflected in the pricing of meter reading and data services? Should some portion of these AMR costs be assigned to meter reading and data services?

Roughly half of the lifetime costs of a fixed-network AMR system are accounted for by operations, including data collection, data management, and maintenance. Those costs that are "meter reading and data services" should be accounted for as such.

Competitive Metering for Natural Gas

16. What are the benefits and drawbacks of allowing large natural gas customers to procure metering and meter data services from competitive providers? How large a gas supply should a customer use in order to qualify for competitive metering?

Gas metering has the same scale economies as electric metering, though the functionality of advanced metering is not as rich. For example, there is not a gas equivalent to outage alarms. Any policies regarding gas metering should reflect the scale economies and the need to capture those in order to provide advanced gas metering to mass market customers.

17. If AMR is used by combination utilities, these utilities usually deploy AMR for both natural gas and electric services to improve the economics of the investment. Similarly, MDSPs seeking to provide service to combination natural gas and electric customers could benefit from AMR and/or advanced metering. To provide these opportunities, should competitive metering be encouraged for natural gas customers? If so, in what way does it make the most sense to proceed?

Since gas metering benefits from extensive scale economies (with the possible exception of manual meter reading, based on the U.K. experience, and the largest customers), competition in gas metering is likely to hurt consumers more than help them. On the other hand, to the extent a combined distribution utility provides advanced metering, there is a slight benefit to providing both gas and electric advanced metering over the same communications network in most cases.

18. Are there additional safety issues with natural gas metering or energy content measurement that should be taken into account when making the decision to extend competitive metering to natural gas? Are these issues an impediment to competitive gas metering?

No comment.

Manual

19. Is it necessary to revise or augment the practices prescribed in the Manual? Further, should the Manual be modified to include gas metering? If so, how? Please cite the specific sections of the Manual where the issues arise and provide concerns raised and proposed solutions.

No comment.

Other Issues

20. Please comment on any other issues related to the development of competitive metering and barriers might impede market entry by new MSPs and MDSPs.

No comment.

IV. CONCLUSION

DRAM appreciates the opportunity to comment on this issue, and request that their comments be duly regarded by the Commission in reaching its decision on this important matter.

Respectfully submitted,

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