

Initial Comments of Low-Income Intervenors

This is the comment of the low-income weatherization and fuel assistance program network (the “Network”) and the Massachusetts Energy Directors Association (“MEDA”) in D.P.U. 09-34, the Western Massachusetts Electric Company (“WMECO” or the “Company”) Smart Grid Pilot Plan (“Plan”). In its Plan, the Company proposes to implement a program with design elements that include the following:

- 1) Exclusive focus on low income customers,
- 2) Implementation of an inclining block rate structure, and
- 3) Deployment of prepayment meters and elimination of existing billing, credit, collection and service termination procedures as delineated in the Department’s rules at 220 C.M.R. § 25.00 et seq.¹

The Network and MEDA address these elements in the discussion below.

As an initial matter, the Network and MEDA wish to emphasize their support for initiatives that assist low income electric customers in reducing peak demand and energy consumption without jeopardizing household members’ health and safety or inflicting financial penalties on low income households that already grapple with cash flow difficulties. The Company’s low income energy efficiency program is an example of such an initiative, and the Network applauds the Company for its efforts in this area. In addition, the Network and MEDA wish to commend the Company for its community-based approach to outreach and education, which supports participation in WMECO’s low income energy efficiency and low income discount programs. The proposed “Smart Grid” pilot, however, is not lawful,² is not good public policy, and should be rejected.

¹ Western Massachusetts Electric 2009 Smart Grid Pilot Plan, April 1, 2009, pp. 4-21.

² See Low-Income Intervenors’ Motion to Dismiss, filed in this docket June 15, 2009.

Exclusive Focus on Low Income Households

The Company stated that it intends to target its pilot “smart grid” programs “entirely on the low income segment.”³ WMECO stated that a pilot focused on low-income customers will yield positive results because low income households consume significantly more electricity per square foot than their higher income counterparts.⁴

The Network and MEDA are opposed to this approach because, as proposed by WMECO and as discussed below, implementation of the Plan will result in the raising of some low-income household electric bills and will introduce technologies and payment structures that increase health and safety risks in low income households. In addition, there is a lack of consistent evidence demonstrating the ability of both high-usage and low-usage, low-income households to shift or modify consumption in response to price signals – delivered either through critical peak pricing, time-based rates or inclining block rate structures.⁵

The Company accurately points out that low income households tend to use more electricity per square foot of living space than higher income households. However, WMECO provides no evidence demonstrating why this dynamic exists, or that relatively high electricity intensity is attributable to factors within customers’ control. In fact, it can be demonstrated that low income individuals tend to live in relatively small dwelling units and that they are more likely to use old, inefficient electricity-consuming appliances. For example, as reflected in the chart in Appendix 1, results of the U.S.

Energy Information Administration’s Residential Energy Consumption Survey indicate

³ Id. at 3.

⁴ Id. at 5.

⁵ The Network and MEDA note that WMECO’s Plan does not include either critical peak pricing or time-of-use rates. It does, however, include implementation of an inclining block rate structure.

that elderly households at or below 150% of the federal poverty level are nearly twice as likely as non-poor elderly households to use a primary refrigerator that is at least 20 years old.⁶ Clearly, size of a dwelling unit and age of major electricity-consuming appliances – both of which may be seen as contributing to high electricity intensity – are factors that low income households cannot readily alter even in the face of price signals.⁷ Thus, the Network and MEDA recommend that the Company redesign its Smart Grid Pilot Plan to target high-use, higher income households that may more readily respond to incentives such as those imbedded in an inclining block rate structure.

Implementation of an Inclining Block Rate Structure

WMECO proposes testing an inclining block rate structure for both heating rate and non-heating low income customers.⁸ Under the proposal, participating customers would be charged a rate differential to the Default Service rate in effect at the time of the pilot of -6.1 cents per kWh for the first 300 kWh per monthly billing period, and +5.9 cents per kWh for consumption above the 300 kWh.⁹ The current Default Service rate for both low income residential and low income heating customers is 11.805 cents per kWh.¹⁰

The Company indicates that average monthly consumption for clothes washing, water heating, cooking, refrigeration and freezing equals about 300 kWh per month and that “more discretionary end-uses beyond the basic necessities would generally fall into

⁶ For a more complete discussion of appliance and heating equipment age by household income and age of household members, see Howat and Taormina, “Home Energy Costs: The New Threat to Independent Living for the Nation’s Low Income Elderly,” Clearinghouse Review, January-February 2008.

⁷ See also similar findings in the Massachusetts Residential Appliance Saturation Survey, prepared by Opinion Dynamics Corporation for the Massachusetts Energy Efficiency Council, April 2009, especially Tables 48-61.

⁸ Western Massachusetts Electric 2009 Smart Grid Pilot Plan, April 1, 2009, p. 6.

⁹ Id. at 10.

¹⁰ Id. at 9.

the higher second step rate.”¹¹ MEDA and the Network note that lighting end-uses are not included in the Company’s “basic necessity” usage category and thus are apparently perceived by WMECO to fall into the discretionary usage category. We contend that lighting is a basic need in present-day society and should be accounted for as such the design of any inclining block rate structure.

The Company’s consultant estimates that the proposed rate structure will generate a five percent energy usage reduction based on short-run price elasticities “in the literature.”^{12,13} Even under these elasticity assumptions¹⁴, the Company’s consultant indicates that low income heating and non-heating customers using over 900 kWh per month would be experience bill increases under the pilot.¹⁵ Without applying the price

¹¹ Id. at 8.

¹² Id. at 9.

¹³ The Brattle Group, “Simulated Impacts of Inclining Block Rates for WMECO,” March 2009, pp. 3, 4. These elasticities appear to have been drawn from the average experience of residential participants in critical peak pricing pilots elsewhere. The literature from these same pilots and programs suggests that low-income participant elasticities are considerably lower. See, for example, Josh Bode, *How Well do Pricing Pilot Impacts Predict Actual Program Impacts?* Freeman, Sullivan & Co. Memorandum provided via email the Edison Electric Institute AMI ListServ by Steve George, Principal at FSC, June 13, 2009 (copy available on request). Freeman, Sullivan compared predictions of load responses to critical peak pricing derived from the California Special Pricing pilot of 2003-4 with the responses of customers who participate in PG&E’s SmartRate CPP tariffs. SmartRate participants enrolled in the California Customer Alternate Rates for Energy program (CARE whereby qualifying low income customers receive a discount on the electricity bill), reduced load by 11%. This was only half the load reduction of non-CARE Smart Rate customers (22.6 %). These results are consistent with the predictions of load response derived from the SPP data: CARE customer responses of 9.4% and non-CARE customer responses of 22.9% respectively. In both the pilot and the actual tariff situation, then, low-income customers’ responses on average were only half those of non-low-income customers. These differential rates of response can be translated into elasticities, indicating much less elasticity among low-income customers.

¹⁴ The Network and MEDA have not had the opportunity to examine these assumptions and thus cannot comment here on their validity.

¹⁵ The Brattle Group, “Simulated Impacts of Inclining Block Rates for WMECO,” March 2009, pp. 6, 8.

elasticity assumptions, billing penalties in participating low income households would occur at considerably lower consumption levels.¹⁶

As indicated above, The Network and MEDA are opposed to pilot plan structures that will increase bills of low income customers who may already lack sufficient funds to pay for basic necessities. Further, we have not seen evidence in this proceeding that high-use, low income customers will be able to reduce consumption safely to avoid adverse billing impacts. Thus, we urge that the Department reject the inclining block rate structure as proposed by the Company. Further, we recommend that consideration of any such structure be confined to a general rate case so that all underlying assumptions, costs and benefits that would accrue to disparate rate payers groups may be fully reviewed by the Department.

Deployment of prepayment meters and elimination of existing billing, credit, collection and service termination procedures as delineated in the Department’s rules at 220 C.M.R. § 25.00 et seq.

WMECO proposes to distribute prepayment meters to all low income customers participating in pilot program.¹⁷ The Network and MEDA strongly oppose this aspect of the Company’s Plan. Replacement of credit-based service with prepayment results in degradation of service for low-income customers and can pose a severe threat to the health and safety of elderly and other customers particularly susceptible to the effects of service interruption. Concurrently, prepayment provides utility companies with an expensive means of reducing new arrearages while bypassing the existing state utility

¹⁶ Id.

¹⁷ Western Massachusetts Electric 2009 Smart Grid Pilot Plan, April 1, 2009, p. 11.

consumer protection framework.¹⁸ Further, proliferation of prepayment meters will likely result in an increase in rates of service “interruption” in low-income households, and therefore represents a degradation in service quality and an attack on the ideal of universal access to affordable, reliable utility service. Given that the technology is expensive and may ultimately be concentrated among payment troubled, low-income customers, it is reasonable to expect that in a post pilot program environment the relatively high cost of prepayment meters will be passed along to ratepayers, and that those high costs may be borne by those least able to absorb them.

Prepayment utility meter technology varies widely. However, most systems include display units that are installed in the customers’ residences or businesses, distribution of plastic magnetic strip “smart” cards that are used to “load” the home meter after deposit of funds at pay center units or other locations that are placed in various locations around the utility’s service area, and a central processor generally located at the utility company’s billing facility. Some systems replace or supplement smart card payment with telephone or internet-based systems. The customer display units show the dollar amount of credit remaining, and often times other information regarding customer energy usage. Some units include warning alert systems that activate when credit is running low. Pay centers generally accept cash or debit transfers using an ATM card. Customers pay in advance for service, with payment balances decreasing as service is delivered. Service is automatically terminated if the payment balance is depleted. Service is restored only when additional payment is rendered and the customer returns to load the meter.

¹⁸ See Low-Income Intervenors’ Motion to Dismiss, filed June 15, 2009.

It is well-known that prepayment meters are in Great Britain. In Great Britain, about 5.9 million residential natural gas and electric utility customers are on prepayment meters, representing about 13% of all installed residential meters.¹⁹ The number of customers using the systems nearly doubled between 1990 and 1997.

The cost of prepayment meters in Great Britain is much higher than credit meters. For example, the Office of Gas and Electric Markets (OFGEM) estimates that the average cost of an electric credit meter is about £10,²⁰ while the cost of a “Smartcard” meter is about £64.²¹ Further, life expectancy of a prepayment meter is much shorter than that of a credit meter. The expected life of an electric credit meter is 21 years, while a smartcard meter is expected to last only 7 years.²² Thus, the estimated annual cost of an electricity credit meter is £0.49; while smartcard meter costs are estimated to be about 18 times higher at £8.96 per year.²³ Finally, OFGEM estimates that the average annual cost of prepayment meter operation in Great Britain is over three times higher than the operation cost associated with credit meter operation.²⁴ Not surprisingly, prepayment meter service is the most expensive payment method in Great Britain, though a vast majority of users do not realize they pay extra for the service.²⁵ In short, the experience in Great Britain is that prepayment meters are far more expensive to purchase and operate than standard, credit meters. These higher costs are passed on to prepayment customers through surcharges.

¹⁹ “Prepayment Meters: Consultation on new powers under the Energy Act 2004 and update on recent developments,” Office of Gas and Electric Markets, p. 8, (February 2005).

²⁰ Google reports that the pound is valued as of noon June 15, 2009 at \$1.626.

²¹ *Id.* at 19.

²² *Id.* And may require greater maintenance given battery life issues.

²³ *Id.*

²⁴ *Id.*

²⁵ “Prepayment Meters,” National Energy Action, (March 2004).

Prepayment meters in Great Britain are concentrated disproportionately in lower-income households, because utilities require them in cases of payment difficulty. It was estimated in 2004 that 47% of electric prepayment users and 58% of gas prepayment users had incomes below £12,500.²⁶ Therefore, the experience in Great Britain is that lower-income households are more likely than their higher income counterparts to use expensive service that may be frequently interrupted. National Energy Action, a respected energy policy research and advocacy organization, suggests that these hidden service interruptions “mask the extent of problems faced by many low-income households in paying for fuel. Many families and individuals who would have been identified as in difficulty with their energy costs are now anonymous, under-consuming and effectively self-disconnecting their access to energy.”²⁷

Proponents of prepayment metering suggest that the technology offers the advantages of increased energy consumption information and control, the ability to budget effectively through prepayment, and reduced customer security deposit and late payment fee expenses. However, prepayment meters, and the associated forfeiture of key regulatory consumer protections, are not necessary in order to achieve these benefits. Customers may obtain monitoring devices that measure and display real time electricity consumption, billing cycle consumption, projected electric bill and peak demand. Such devices are available for under \$150 and do not entail sudden and unwelcome loss of service. In addition, traditional credit billing and metering does not preclude customers from budgeting and prepaying for service.

²⁶ Id.

²⁷ Id. at 2.

The Network and MEDA note that the key feature of prepayment service is that service is remotely disconnected in the event of nonpayment. Currently, disconnection is a manual process conducted by utility field personnel at the premise of the customer. While some may suggest that there are utility system efficiencies to be gained through implementation of remote disconnection, there are also grave health and safety consequences associated with the practice. Attached as Appendix 2 is an Associated Press story from January 2009 describing circumstances where a 93-year-old Michigan man froze to death in his home after installation of a “service limiter.” While service limiters and prepayment meters differ in some ways, both technologies utilize an automated service disconnection feature that replaces the process of manual disconnection during a premise visit. In addition to the horrific tragedy described in the attached news story, it is widely known that households that experience electricity service loss often resort to hazardous means of lighting and heating their homes. Such tragedies and risks are avoidable through assuring that access to basic, necessary utility service is preserved. Prepayment and remote disconnection of service are contrary to this ideal. MEDA and the Network thus strongly urge that as a matter of policy, the Department reject proposals to implement prepayment service.

The Company readily acknowledges that implementation of its prepayment proposal would require suspension of key provisions of the Department’s customer service rules at 220 C.M.R. § 25.00 et seq.²⁸ The Network and MEDA urge that no such suspension be granted by the Department, and that such suspension would be in violation of the hold-harmless consumer protection provisions of the Restructuring Act.²⁹

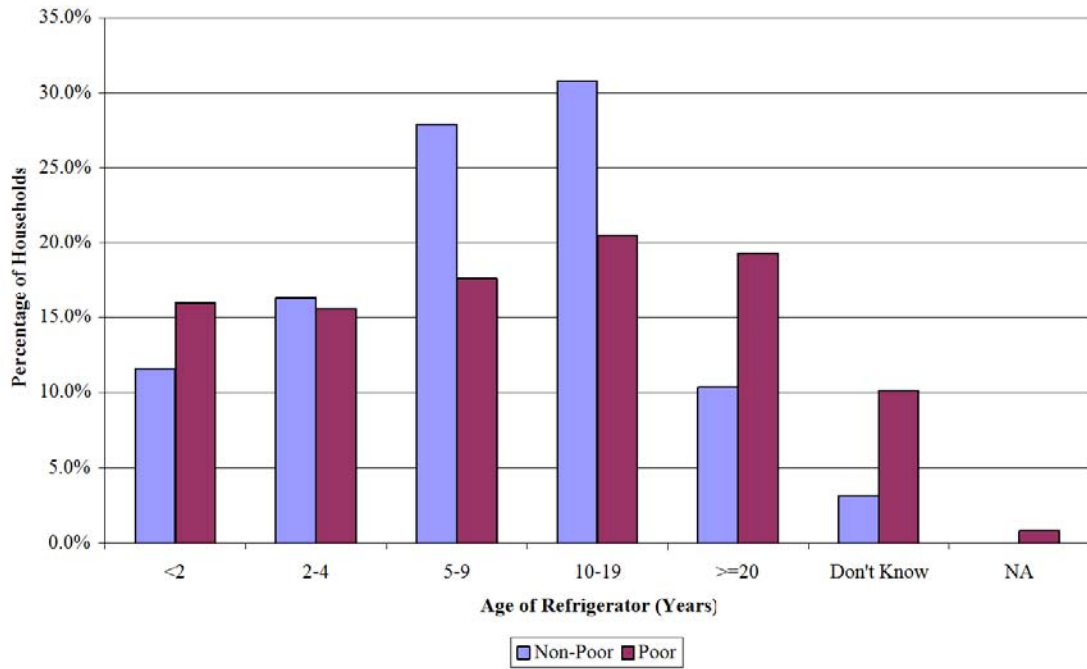
²⁸ See, e.g., response to Q-DPU1-005.

²⁹ See Low-Income Intervenors’ Motion to Dismiss.

In summary, for reasons stated above, the Network and MEDA respectfully urge that the Department reject the Company's inclining block rate and prepayment proposals. We further urge the Department to rule favorably on the Motion to Dismiss as filed in the instant proceeding by the Network and MEDA. We appreciate the opportunity to comment in this case.

Appendix 1

Age of Primary Refrigerator: Poor and Non-Poor Elder Households



Source: U.S. Energy Information Administration, 2001 Residential Energy Consumption Survey.

National Consumer Law Center
December 2006

Appendix 2

93-year-old man freezes to death indoors

93-year-old man had almost \$1,100 in unpaid electric bills

The Associated Press

updated 3:39 p.m. ET, Mon., Jan. 26, 2009

BAY CITY, Mich. - A 93-year-old man froze to death inside his home just days after the municipal power company restricted his use of electricity because of unpaid bills, officials said.

Marvin E. Schur died "a slow, painful death," said Kanu Virani, Oakland County's deputy chief medical examiner, who performed the autopsy.

Neighbors discovered Schur's body on Jan. 17. They said the indoor temperature was below 32 degrees at the time, The Bay City Times reported Monday.

"Hypothermia shuts the whole system down, slowly," Virani said. "It's not easy to die from hypothermia without first realizing your fingers and toes feel like they're burning."

'Limiter' device installed

A city utility worker had installed a "limiter" device to restrict the use of electricity at Schur's home on Jan. 13, said Bay City Manager Robert Belleman. The device limits power reaching a home and blows out like a fuse if consumption rises past a set level. Power is not restored until the device is reset.

There was no word Monday whether the device had blown out or confirmation of the amount Schur owed to Bay City Electric Light & Power; city officials did not respond to a call seeking comment.

Belleman said he didn't know if anyone made personal contact with Schur to explain how the device works.

The body was discovered by neighbor George Pauwels Jr., who said Schur had almost \$1,100 in unpaid electric bills. Pauwels told the newspaper he saw cash clipped to those bills on the kitchen table on the day he found Schur's body.

"His furnace was not running, the insides of his windows were full of ice the morning we found him," Pauwels told the Bay City News.

Power shut off, if bills unpaid

Belleman said city workers keep the limiter on houses for 10 days, then shut off power entirely if the homeowner hasn't paid utility bills or arranged to do so.

He said Bay City Electric Light & Power's policies will be reviewed, but he didn't believe the city did anything wrong.

"I've said this before and some of my colleagues have said this: Neighbors need to keep an eye on neighbors," Belleman said. "When they think there's something wrong, they should contact the appropriate agency or city department."

Schur had no children and his wife had died several years ago.

Bay City is on Saginaw Bay, just north of the city of Saginaw in central Michigan.