
MA DPU Grid Modernization Working Group
Questions for Utilities Regarding Meter Practices
Responses of Fitchburg Gas and Electric Light Company d/b/a Unitil
February 14, 2013

The questions below are intended to solicit helpful background information for the Customer-Facing Subcommittee and the Steering Committee. We would like to distribute this information ahead of the February 26th Customer-Facing Subcommittee meeting, if possible.

In those cases where the information is different across rate classes, please provide for each rate class separately.

1) Current meters

- a. The type(s) of meters currently in-service and the functions available: including for example AMR; AMI with or without interval metering; AMI capable of two-way communication, etc.

Response: Unitil currently has AMI, AMR, and interval metering systems. The AMR system is used for gas metering in New Hampshire and Maine and a limited area of Massachusetts. Interval readings are provided via Itron's MV90 system with phone lines to customer meters or optically probed by a meter technician. The primary billing system for electric customers and most of the gas customers in Massachusetts is the AMI system.

Unitil's AMI system provides for two way communications with the meter and other field devices, is capable of gathering system performance data at every meter, and can be easily integrated with other systems. The AMI system is not capable of interval data recording without additional enhancements, but Unitil utilizes Itron's MV90 system to provide this capability for larger customers and for load surveys.

The AMI system utilizes ultra-low bandwidth, power line carrier signals and parallel frequency communications for simultaneous communication with all meters. Data is transmitted to a server with router capability located at substations. The data is then transmitted by telecommunication lines to Unitil's centralized server room where it is made available across the Company's information network to all of the operating centers for billing, status monitoring, or analysis. The Company views the AMI system as offering a strategic platform for additional technological, management, and evaluative capabilities, including:

- (1) better monitoring of daily load and peak load conditions at the customer level or specific circuits through available daily usage, peak, and on-demand load surveys;
- (2) hourly,¹ daily and on-demand meter reads;
- (3) remote "virtual" access (e.g., for disconnections and reconnections) or physical remote disconnect with service limiting capabilities at the meter;²

¹ Systems in Massachusetts are capable of daily data queries. Systems in New Hampshire have daily and "streaming" live data capabilities.

(4) electric system monitoring, including load, voltage, reliability, power quality, outage and momentary outage detection;^(See footnote 1)

(5) remote configuration of all meter types;

(6) four configurable TOU periods recorded in the endpoint with the ability to schedule TOU and critical peak periods on-demand;

(7) direct interaction with in-home displays, thermostats and smart appliances with ZigBee®-enabled endpoints;^(See footnote 2) and

(8) distribution automation capabilities such as remote capacitor control.

Most importantly, Unitil's AMI can serve as the platform for demand-response and TOU programs.

b. The approximate average age of the meters installed.

Response: 7.1 Years.

c. The book life used to recover the costs of the meters installed.

Response: The average service life for accounting purposes is 20 years.

d. The expected operating life of the meters installed.

Response: The electro-mechanical meters are expected to have an operating life of 20-30 years, but batteries and endpoints are electronic devices and may therefore have a reduced life based on operating settings and technology obsolescence. We do not have a long enough experience with the newer electronic meters to provide an expected operating life.

2) Company replacement policies and practices

a. Please describe the Company's current practice for replacing meters when they are no longer operable. Does the Company simply replace when a meter fails, or is there a regular replacement schedule? If so, please describe.

Response: Unitil replaces upon failure and does not replace on a regular schedule.

b. What type of meter is used for replacement (AMR, AMI, Other)? What functions do the replacement meters offer?

Response: Unitil's practice is to replace with like technology. See 1a for detail of technology.

3) Meters and competitive suppliers

a. Please describe the role that competitive generation suppliers play in the Company's decisions regarding meters in your service territory.

i. If the competitive suppliers have requested specific types or functions of meters, please describe?

Response: Upon request from the Customer and Supplier, Unitil has installed advanced interval metering with pulse output available for customer and/or Supplier interface. Unitil also offers an interval data

² Enabling this technology requires a meter replacement but is fully compatible with existing AMI system.

service. This service is a web based service that provides the ability to view and download historical readings in a web based environment.

- ii. Please describe any roles that competitive suppliers play in the purchasing, installing, or reading the meters, or sending bills?

Response: Unitil purchases, installs, and reads meters as well as performs all billing services. The Supplier has the option to choose a complete bill (Unitil bills for both distribution services and Supplier provided energy supply) or a dual bill (where the Supplier bills the customer directly for their energy supply service).

In instances where the supplier undertakes billing for the supply (dual billing), Unitil provides the supplier with consumption readings. In January 2013, for FGE, there were 401 customers on third party supply. Of those, 267 were dual billed and 134 had complete billing.

- iii. If a competitive supplier installs, or has a customer install, an advanced meter to record interval data in support of a competitive supplier offered time-based rate, how does this interface with regular utility meter reading and billing?

Response: Unitil only uses company-specified revenue-grade metering for billing and meter reading purposes.

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