

## GPU Energy Competitive Metering Specifications

### Definition and Terms for Advanced Meters and Advanced Meter Services

1. Advanced meters must meet all applicable Pennsylvania Public Utility Commission (“Commission”) standards, the “Requirements for Advanced Metering,” as attached (Attachment A), and must be Y2K compliant.
2. GPU Energy has the right of physical access to all metering and associated equipment for operational and emergency response purposes.
3. Advanced Meter Services can be defined and divided into two components:
  - a. the installation, removal, testing and maintenance of the physical meter required on a premise to measure the required variables.
  - b. reading the meter and validating the raw meter outputs and applying, editing, and estimating rules, adding corollary information needed to characterize the customer, and making requested customer information available to authorized parties.
4. MSP: An Electric Generation Supplier, licensed by the Commission, which is also duly licensed by the Commission to be a Meter Service Provider in GPU Energy’s service territories for the provision of advanced meters and/or advanced meter services.

**Certification Process** The Advanced Meter Service Provider Document shall govern certification of advanced Meter Service Providers within GPU Energy’s service territories.

1. An EGS may request that the PUC allow that EGS to provide Advanced Meters and Advanced Meter Services in the licensing process.
  - a. An EGS that proposes to offer Advanced Meters and Advanced Meter Services shall be licensed to do so by the Commission.
  - b. An EGS must submit to the PUC proof of its technical fitness to warrant expansion of its license to allow it to offer Advanced Meters and Advanced Meter Services. Such fitness standards will include, but will not be limited to, the ability of the EGS and/or its certified subcontractor to adhere to the same metering safety and installation standards and

practices imposed upon GPU Energy and the technical ability to transfer data and information according to prescribed standards.

### Testing/Calibrating of Meters

1. Testing and calibration of meters must meet all applicable Commission standards.
2. For all EGS-provided advanced meters that are required to be installed, initially tested and maintained by GPU Energy pursuant to the terms of the Joint Petition for Full Settlement of the Restructuring Plans of Metropolitan Edison Company and Pennsylvania Electric Company (Docket Nos. R-00974008 and R-00974009)(the "Joint Petition for Full Settlement"), the MSP is responsible for the accuracy test of the advanced meter as described at 52 Pa.Code §§ 57.20(g) and 57.21(g) and meter programming prior to shipping the meter to GPU Energy for installation. The installer of the meter shall perform the functionality test for the advanced meter, as described at 52 Pa.Code §§ 57.20(g) and 57.21(g), at the time the meter is installed or within the allowable period thereafter.

### Advanced Meter Installation

1. An MSP that wishes to replace the GPU Energy meter, where the installation must be performed by GPU Energy pursuant to the terms of the Joint Petition for Full Settlement, must provide notice to GPU Energy at least twenty (20) business days prior to the proposed meter change date, via EDI as defined by the Electronic Data Exchange Working Group ("EDEWG"). The MSP meter must be received by GPU Energy's Bethel, PA facility at least fifteen (15) business days prior to the proposed meter change date. Business processes and required data to be exchanged will be defined by December 1, 1998. The transaction shall include the scheduled date that the EGS will change the meter.
2. An MSP that wishes to replace the GPU Energy meter, where the installation will not be performed by GPU Energy, must provide notice to GPU Energy at least four (4) business days prior to the proposed meter change date via EDI as defined by EDEWG.
3. An advanced meter cannot be installed within four business days prior to the customer's regularly scheduled meter reading date or one-business day after the customer's regularly scheduled meter reading date. In the fourth quarter 1999, this time period will be revisited by the parties and GPU Energy will determine whether to modify the timing. GPU Energy will provide 60-days advance notice so that parties that disagree with GPU Energy's decision not to

modify the timing may request the Commission to overrule or modify GPU Energy's decision.

4. An EGS installing an advanced meter must comply with all applicable Commission standards and GPU Energy's electric service requirements manuals.
5. GPU Energy will not require removal of an Advanced Meter that meets GPU Energy's required specifications as a condition of a customer's return to PLR service.
6. Transformer rated meter installations.

#### Current Transformers (CT) & Potential Transformers (PT)

- GPU Energy will own all CT & PT installations
- GPU Energy will install and replace all CT's & PT's as required to maintain the integrity of its distribution system
- GPU Energy will be responsible for testing all CT's & PT's to ensure accuracy, operability with the advanced meter, and compliance with PUC installation requirements
- The MSP is responsible for coordinating any customer outages required for changes to the customer's meter, CT's & PT's, or associated equipment

#### Instrument Transformer Wiring

- GPU Energy will own all CT & PT wiring (colors), from the CT & PT up to the meter test switch
  - the "line of demarcation", where GPU Energy's responsibility ends and the responsibility of the MSP begins, is at the line-side of the meter test switch
  - the meter test switch itself is considered part of the meter panel and is the responsibility of the MSP
  - GPU Energy is responsible to connect / disconnect meter wiring from the meter test switch

#### Meter Panels

- GPU Energy will leave existing meter panel in place for use by an MSP providing metering service, if the MSP chooses to use it;
  - GPU Energy will not be responsible for replacement, upgrade or alterations to existing meter panels to be used by an MSP providing metering service;
  - An MSP providing metering service is responsible for providing and installing the meter panel, if required, for any metering

application where a GPU Energy meter panel did not previously exist;

- The MSP provided meter panel shall be left in-place for use by future meter service providers in instances where no GPU Energy meter panel exists;
- GPU Energy will be permitted to leave existing inactive metering (panel & meter) in place, with the customer's permission, if the panel is not to be used by an MSP providing metering service. This metering may be reactivated if the customer returns to metering service provided by GPU Energy.

#### Metering Credits

- A customer's metering credit is not affected if GPU Energy or any MSP providing metering service leaves the meter panel which they installed in-place for the next metering service provider or if GPU Energy leaves an inactive meter at the premise as described above.
- If an existing or upgraded GPU Energy meter is required for metering a customer's account, the Customer will not receive a metering credit
- GPU Energy's meter must be replaced by the meter of the MSP providing metering service, in order for the customer to receive the applicable metering credit.
- For accounts with multiple meters, the MSP must provide all meters for metering the account in order for the customer to receive the metering credit.

### 7. Non-Transformer-Rated Meters

#### Meter Panels

- Customer is responsible for meter panel / meter socket for all non-transformer rated meter installations, per GPU Energy's Electric Service Requirements

#### Metering Credits

- There shall be no proration of metering credits. For customers who select an MSP, the full credit shall be given in the first billing cycle during which the MSP begins to provide advanced metering services. When the MSP discontinues advanced metering services to the customer, for whatever reason, the customer will not receive the metering credit for the billing cycle in which advanced metering services are discontinued.

- If an existing or upgraded GPU Energy meter is required for metering a customer's account, the Customer will not receive a metering credit.
  - GPU Energy's meter must be replaced by the meter of the MSP providing metering service, in order for the customer to receive the applicable metering credit.
  - For accounts with multiple meters, the MSP must provide all meters for metering the account in order for the customer to receive the metering credit.
8. Access to customer premise for meter installation and maintenance. The MSP is responsible to obtain access to customer premises or locked rooms within customer premises directly from the customer. GPU Energy will not provide an MSP with customer keys or access to GPU Energy's customer keys in order to gain access to restricted areas within the customer's facility.
9. GPU Energy will provide an MSP with security keys for GPU Energy barrel lock rings.
10. The MSP shall coordinate with all relevant parties when work on the meter installation or related equipment is proposed at the customer site.

### Meter Reading

1. An MSP providing advanced metering service may request an adjustment to the meter reading schedule for an account which it meters and select from an existing GPU Energy defined meter reading route. On January 1, 1999, GPU Energy will accommodate MSP specified meter reading schedules for Rates LP, TP and GP. By the end of the second quarter 1999, GPU Energy will accommodate MSP specified meter reading schedules for all other GPU Energy metered rate schedules. For accounts with multiple meters, the adjustment to the meter read schedule must apply to all meters on the account.
2. All metering data collected by an MSP providing advanced metering service, which is required by GPU Energy for billing and distribution service operation, shall be transmitted electronically to GPU Energy via EDI per EDEWG standards. GPU Energy and MSPs shall work together in the EDEWG to insure that the necessary EDI transactions are finalized in a timely fashion such that EDI may be utilized for the transmission of metering data. In the event that the necessary EDI transactions are not finalized by EDEWG, GPU Energy and MSP shall develop a mutually acceptable interim solution for the transmission of metering data.
3. If GPU Energy is providing the metering service and the EGS is providing the customer with a consolidated EGS bill, all metering data which is required by

the EGS for billing shall be transmitted electronically to the EGS via EDI per EDEWG standards.

4. Any authorized party that is providing advanced metering is responsible for the safe installation, maintenance, authorized operation, the accuracy of such advanced metering, and for resolving theft of service issues. In the case of theft of service, the party that discovers a theft of service condition will notify the other party within five-business days. [The parties have agreed to file additional comments addressing the EGS or GPU Energy's responsibility for the stolen service.]
5. Any MSP providing advanced metering service is required to keep the most recent 12 months of customer consumption data for each metered customer. Such data must be retained for a period of 36 months. Such data must be released on request to the customer or, if authorized by the customer, to any EGS or to GPU Energy.
6. GPU Energy shall not be responsible, financially, operationally or otherwise, for the communications to or from the meter for advanced meters not owned by GPU Energy.
7. 15-minute interval data and billing data shall be transmitted by and between GPU Energy and MSP's pursuant to the terms and conditions of the GPU Energy Competitive Metering Data Requirements document.
8. GPU Energy will provide additional or other information available from its electronic information system with customer consent only, but will do so only for a charge in accordance with the terms and conditions of the GPU Energy Electric Generation Supplier Tariff.

#### Dispute Resolution

1. A dispute involving GPU Energy and an MSP shall be handled pursuant to Rule \_\_\_ of GPU Energy's Electric Generation Supplier Coordination Tariff. The PUC has final adjudication authorization of all disputes.
2. Customer disputes involving advanced meter reading issues shall be handled by the MSP as the entity responsible for the advanced meter. The MSP will coordinate with GPU Energy so that a proper investigation is made within the time period defined by 52 Pa. Code §56.151(5) and that the customer is informed of the results of the investigation. GPU Energy shall provide all information needed by the MSP relating to the customer's complaint and must do so within 5 business days of the EGS's request.

### Parties Permitted to Provide Competitive Metering Service

All Parties licensed to provide Advanced Meter Services pursuant to the terms of the Commission's Order Implementing Competitive Metering and Billing Arrangments (Docket Nos. R-00973953 and P-00971265, Order Entered July 1, 1998) and applicable terms herein may provide competitive metering services.

### Termination of Service to Customers with Competitive Metering Services

1. GPU Energy will maintain responsibility for physically energizing, discontinuing and terminating service to customers.
2. For any account that is metered by an MSP, GPU Energy may terminate service to an account, after proper notice to the customer in accordance with the Commission's regulations and GPU Energy's (Metropolitan Edison Company and Pennsylvania Electric Company) tariffs.
3. At the time a field termination visit is scheduled, GPU Energy will notify the MSP of the scheduled time for such termination visit. In the event service termination occurs, GPU Energy will provide notice to the MSP of the termination within 24 hours.

### Interim Procedures For The Provision of Competitive Advanced Metering Services

Interim Procedures for the provision of competitive advanced metering services, as more fully described in Attachment C, attached hereto and made a part hereof, shall govern competitive advanced metering services between all MSPs and GPU Energy from January 1, 1999 to June 30, 1999. GPU Energy and all MSPs shall cooperate in the implementation of the Interim Procedures to insure best possible service to the customer.

### **Requirements For Advanced Metering**

An Advanced Meter Service Provider supplying metering systems for electric distribution customers of GPU Energy will comply with the latest version of all applicable standards and codes for providing metering, metering devices, and metering services, including but not limited to the following:

- Applicable parts of the Pennsylvania Code Title 52, Chapter 56 and Chapter 57
- Any other applicable PA PUC guidelines
- All applicable ANSI standards, including specifically:
  - ANSI C12 standards
  - ANSI C57 standards
  - ANSI C2 standards  
(National Electrical Safety Code)
- National Electric Code standards
- NEMA standards
- GPU Energy Electric Service Requirements
- GPU Energy Requirements for Commercial Electric Service
- OSHA requirements

The performance, accuracy, testing, calibration, and installation of the above mentioned metering systems, including revenue meter, instrument transformers, and any other ancillary devices (e.g., recorders, test switches, relays, etc.), shall comply with all requirements in the Pennsylvania Code, Title 52, Chapter 57, and the latest version of all applicable ANSI C12 standards.

The Advanced Meter Service Provider shall assure that the following specific requirements are met.

#### **For All Meters:**

- All meters must be tagged/labeled with the name of the EGS, GPU Energy or subcontractor providing meters for the EGS or GPU Energy.
- All meters are to have a nameplate with values for "CTR", "VTR", "Pkh", and "Multiply by" as applicable.
- Certain invalidated, non-billing data, as mutually agreed upon, will be made available to the non-metering party.
- All meters must be equipped with a visual watt-hour indicator for meter testing. This indicator is to be calibrated to the meter watt-hour constant (Kh).
- For each meter installed by the Advanced Meter Provider, the following shall be provided: accuracy test information, vendor serial number, all metering and billing constants, and any other meter records information as required by the PUC. This

data shall be provide by the method agreed upon in the Data Exchange Working Group.

- All meters must comply with the standards established by the Commission's Meter Working Group.
- The Advanced Meter Provider will have a technician present at the customer site to meet a GPU Energy technician if GPU Energy exercises its right to test the meter, in lieu of providing meter application programs and passwords.
- All meters shall be tested and maintained as per PUC requirements and ANSI standards.
- All meter testing shall comply with all applicable Commission regulations and the standards established by the Commission's Meter Working Group.

#### For Solid-state Electricity Meters:

- The accuracy and form designation of solid-state electricity meters must comply with ANSI C12.16 and ANSI C12.20.
- Solid-state electricity meters may be used for any customer
- Solid-state electricity meters must measure reactive power in order to compute the power factor in the applicable GPU Energy rate schedule, if required.
- Solid-state electricity meters used for customers must be 0.2 accuracy class.
- -Solid-state electricity meters used with an internal *Transformer Loss Compensation* feature need only to meet ANSI 12.1 accuracy requirements if the same meter meets the above specified accuracy class without the feature.

#### For Metering Installations:

- Metering Installations shall conform to the metering installation requirements in the GPU Energy Electric Service Requirements manual and the GPU Energy Requirements for Commercial Electric Service manual, however these requirements will not limit the use of the latest technology and will be updated as necessary so as not to preclude the use of such new technology.
- Metering Installations for Self-Contained Meters must have the proper meter socket, "A" base adapter, cabinets, and test blocks as required for the meter form and location of the installation (i.e., indoor vs. outdoor).
- Metering Installations for Transformer-Rated Meters must have the proper meter socket, "A" base adapter, panels, cabinets, and test switches as required for the meter form and location of the installation (i.e., indoor vs. outdoor).
- Metering Installations must comply with ANSI C12.6, ANSI C12.7, ANSI C12.8, ANSI C12.9 and all applicable NEC codes.

**GPU Energy Electric Distribution Company**  
**Installation Test Requirements For Advanced Metering**

An Advanced Meter Service Provider supplying metering systems for electric distribution customers of GPU Energy will test all meters and associated devices in compliance with all requirements of the Pennsylvania Code Title 52, Chapter 57, and as specified in the table below. As required by the PA code, meters will be tested when installed, when removed, and during periodic maintenance as prescribed for each type of meter. During installation and periodic in-service maintenance, a full test of all meter system components shall be made as specified below. During removal, only the as-found accuracy tests as described in the PA code are necessary.

	1	2	3	4	5	6	7	8	9	10
Type of Meters/Devices	Voltage Test	Light & Full Load Test	Inductive Load Test	Customer Load Test	Demand Test	Register Verification	Phase Angle Test	Separate Element Check	Burden Test	Communications Test
Self-Contained kWh Meters	X	X	X	3						4
Transformer-Rated kWh Meters	X	X	X	3				X	X	4
Hybrid Meters	X	X	X	3	X	X		X		
Solid State Meters	X	X	X	3	X	X		X		4
Transformer-Rated kVARh Meters	X	X	X	3			X	X	X	4
Multi-Quadrant Meters	X	X	X	3	X	X	3	X	X	4
Solid State Recorders	X				X					4
Mechanical Registers					1	2				
Electronic Registers					1	2				
Pulse Devices					X					
Self-Contained Network Meters	X	X	X	3				3		4
Meter Interface Units (MIUs)	3				3					4

**1** Performed if demand is present. **2** Energy Consumption Investigation is necessary. **3** Performed when deemed necessary. **4** Performed if communications option is present and its proper operation is suspect.