



Energy Delivery

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Rev. 0  
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FUNCTIONAL AREA													
AD	AM	BO	CM	CS	EA	EN	EP	EX	FM	GO	HR	IT	OP
				X									
PC	QA	RE	SA	SM	TQ	VM	WM						

## FIELD & METER SERVICES WEST REGULATORY REQUIREMENTS

1 **PURPOSE**

1.1 To provide guidelines for Electric Metering Standards to comply with Title 83 Illinois Administrative Code Ch. 1, Section 410.

2 **TERMS AND DEFINITIONS**

1. **ACCEPTANCE TESTING**: The approval of a group of meters based on statistical testing procedures.
2. **AVERAGE ERROR**: The difference between 100% and the average percent registration as defined in Section 410.150(d) of Title 83 of the Illinois Administrative Code.
3. **COMPLAINT**: An objection made to an entity, by a customer or another entity, as to its charges, facilities or service, the disposal of which complaint requires investigation or analysis.
4. **ENTITY**: Each electric utility providing services within its service area, each electric utility providing electric power and energy outside its service area, any ARES providing services subject to this Part, and any electric cooperative or municipal system but only when it provides services as an ARES outside its service territory.
5. **METER SHOP**: A facility containing equipment used by an entity for determining the accuracy of meters.
6. **PORTABLE STANDARDS**: Instruments (e.g., watt-hour meters, voltmeters, and ammeters) that are used outside the meter shop to test customer meters.

7. REFERENCE STANDARDS: Instruments (e.g., watt-hour meters, voltmeters, and ammeters) that are used only for verifying the accuracy of working or portable standards, and whose accuracy is traceable back to the national standard maintained by the National Institute of Standards and Technology or its successor.
8. WORKING STANDARDS: Instruments (e.g., test benches and demand boards) that are used in meter shops to test the accuracy of customer meters.

### 3 **RESPONSIBILITIES**

#### 3.1 **FIELD & METER SERVICES**

1. Follow all requirements of the Title 83 Illinois Administrative Code Ch. 1, Section 410.

### 4 **REGULATORY REQUIREMENTS**

1. Section 410.110 Meter Records.
2. Section 410.120 Metering Service Requirements.
3. Section 410.130 Separate Metering.
4. Section 410.140 Testing Facilities and Equipment.
5. Section 410.150 Meter Accuracy Requirements.
6. Section 410.151 Installations and Removal of Lagged Demand Meters.
7. Section 410.155 Installation Inspections.
8. Section 410.160 Initial Tests.
9. Section 410.170 Accuracy Testing of Meters.
10. Section 410.180 Sample Testing Procedures.
11. Section 410.190 Meter Tests Requested by Customer.
12. Section 410.195 Meter Tests Requested by Entity.

5 **MAIN BODY**

5.1 **SECTION 410.110 METER RECORDS**

5.1.1 Each entity shall **KEEP** records that contain information about each service watt-hour meter AND var-hour meter the entity owns OR has in service in this State.

5.2 **SECTION 410.120 METERING SERVICE REQUIREMENTS**

5.2.1 Each service watt-hour meter shall have a register OR display on the front of the meter that: **DISPLAYS** energy consumption in a definite AND known proportion to the actual energy consumption of that customer; is plainly visible; AND can be **READ** by the customer. The customer may waive this requirement in writing. This requirement shall not affect the entity's right to **SECURE** meters for safety reasons OR in situations in which the meter is subject to excessive risk of damage OR tampering.

5.2.2 At the customer's request, a representative for the entity providing metering service shall **EXPLAIN** to the customer how to **READ** the meter used for billing that customer.

5.3 **SECTION 410.130 SEPARATE METERING**

5.3.1 Except as otherwise provided in subsection (c) of the Title 83 Illinois Administrative Code Ch. 1, Section 410.130, a separate meter shall be used to **MEASURE** the electricity that is consumed within, AND controlled by the occupant of, each individual unit contained in any new building, newly remodeled portion of an existing building, or new mobile home park for which a building permit was obtained on OR after November 1, 1981, OR, if no permit was required, for which construction was commenced on OR after November 1, 1981.

5.3.2 Separately metered consumption shall be **USED** as the basis for billing the occupant of the individual unit as a separate customer.

5.4 **SECTION 410.140 TESTING FACILITIES AND EQUIPMENT**

5.4.1 Each entity shall **PROVIDE** a meter shop adequately equipped with reference standards, instruments AND other facilities, equipment, AND personnel necessary to make the tests required of the entity by this Part.

5.4.2 Each entity shall **PROVIDE** working standards AND portable standards necessary to make the tests required of the entity by this Part.

- 5.4.3 All apparatus AND equipment SHALL be available at all times during the entity's established business hours for the **INSPECTION** of OR USE by authorized representatives of the Commission.
- 5.4.4 The entity shall take precautions to ensure that the meters **USED** for billing AND maintaining customers usage are **not** damaged in transit to OR from any testing facility.
- 5.5 SECTION 410.150 METER ACCURACY REQUIREMENTS
- 5.5.1 The accuracy of service watt-hour meters shall be determined using the following criteria:
1. Light Load test: 10% of test amps at 100% power factor
  2. Heavy Load test: 100% of test amps at 100% power factor
  3. Power Factor test: 100% of test amps at 50% lagging power factor. The power factor test is only required on meter shop tests.
- 5.6 SECTION 410.160 INITIAL TESTS
- 5.6.1 Initial tests are tests made before installation, regardless of whether the meter AND associated devices have previously been in service.
- 5.6.2 Each meter AND associated devices (unless included in the sample testing plan in Section 410.180) shall be **INSPECTED AND TESTED** in the meter shop of the entity OR other location that meets the requirements of this Part before being placed in service, AND the accuracy of the meter shall be within the tolerances permitted by this Part. IF a meter is removed from a customer's premises, except for field testing, it shall be **TESTED AND INSPECTED** as described above before it is placed in service again. IF creep OR inaccuracy is discovered in a meter removed from service, the entity shall **CORRECT** the metering data as detailed in Section 410.200.
- 5.7 SECTION 410.170 ACCURACY TESTING OF METERS
- 5.7.1 Each service watt-hour meter AND var-hour meter shall be **INSPECTED** and **TESTED** according to the schedule in subsection (b). At the time a service watt-hour meter OR var-hour meter is tested, any demand meter associated with it shall be **INSPECTED OR TESTED**. Each demand meter shall be tested at least as often as the meter with which it is associated AND, as nearly as practicable, at the same time. IF the service watt-hour meter is of the type in which the same element that measures watt-hours is used to measure demand, THEN the watt-hour test AND the demand test shall be considered to be one and the same.

## 5.8 SECTION 410.180 SAMPLE TESTING PROCEDURES

5.8.1 Each entity using sample testing shall **FILE** a yearly report no later than March 31 of the following year with the Chief Clerk of the Commission AND **PROVIDE** a copy to the Manager of the Energy Division OR its successor **DETAILING** the sample plan used in the previous year, along with the results of the testing program.

## 5.9 SECTION 410.190 METER TESTS REQUESTED BY CUSTOMER

5.9.1 Upon customer request, the entity **PROVIDING** metering service to that customer shall **TEST** the customer's meter within 30 days after receiving the request, unless the customer agrees to a later time. The meter test shall be **PERFORMED** between 7 a.m. AND 4 p.m. Monday through Friday, excluding holidays, unless the entity AND the customer agree upon some other time. The test shall be **PERFORMED** at the meter installation location AND in the customer's presence, unless the customer **CONSENTS** to the meter to be **REMOVED** AND/OR **TESTED** outside the customer's presence.

## 5.10 SECTION 410.195 METER TESTS REQUESTED BY ENTITY

5.10.1 Upon another interested entity's request, the entity **PROVIDING** metering service shall **TEST** the meter within 30 days after receiving the request, unless the requesting entity agrees to a later time. The meter test shall be **PERFORMED** between 7 a.m. AND 4 p.m. Monday through Friday, excluding holidays, unless some other time is agreed upon by the entities. The test shall be **PERFORMED** at the meter installation location AND in the presence of a representative of the requesting entity, unless the requesting entity **CONSENTS** to the meter to be **REMOVED** AND/OR **TESTED** without the representative's presence.

## 6 DOCUMENTATION

1. Documentation generated during performance of this procedure shall be filed for a minimum of three years or until the next test.

## 7 REFERENCES

1. Title 83: Illinois Administrative Code, part 410, standards of service for electric utilities and alternative retail electric suppliers.

## 8 ATTACHMENTS

1. None

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**DEVELOPMENT HISTORY**

<b>Revision 0</b>		<b>Date 08/1/2005</b>
Writer	Phil Martin, Senior Engineer, System Meter Department	
Reviewer(s)	Tom Kearney, F&MS Field Engineer, Tim Leahy F&MS Sr. Analyst	
Approver(s)	Alyssa McCartney-White - FAM	
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Reason Written	Brief description explaining why the procedure was written or revised.	

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