



## SERVICE SCHEDULE 8 BILL ESTIMATION

Arizona Public Service Company (APS or Company) regularly encounters situations where a complete and valid meter read cannot be obtained. In such cases the customer's usage information must be estimated in order to render a bill. This schedule describes the circumstances, methods and procedures for estimating a customer's bill and is considered a part of all rate schedules.

### 1. GENERAL PROVISIONS

1.1 Causes that may result in an estimated bill include but are not limited to:

- (A) Weather conditions that hinder meter access or compromise employee safety;
- (B) Lack of access to the meter or the site;
- (C) Malfunction of the meter, related equipment, or the Automated Meter Infrastructure (AMI) system;
- (D) Labor limitations due to unforeseen illness, natural disasters, or other extreme events;
- (E) Meter tampering or energy diversion;
- (F) Inability to transfer meter data for billing.

1.2 The following are conditions under which a bill is not considered to be an estimate:

- (A) Rate changes in the middle of the billing cycle when a valid read is available;
- (B) Meter information obtained from a visual meter read rather than an electronic meter reading device;
- (C) Direct access service using load profiles rather than meter data;
- (D) A misread meter or estimated bill that is subsequently corrected with actual data. The rebill is considered a corrected bill.

### 2. ESTIMATION METHODS

APS will estimate the customer's billing information, such as monthly kWh consumption, monthly kW demand, on-peak kWh, and other information using the following methods:

2.1 The estimation procedure will start with the first method and proceed to a subsequent method if necessary – for example, if the required information is not available, is unreasonable, or was also estimated.

2.2 Under each method, available kWh data is used to determine a per-day usage value by dividing the total kWh by the number of days in the billing period. The per-day usage is then multiplied by the number of days in the current billing period to determine estimates for total and on-peak kWh usage. For



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rates with a kW demand component the demand will be the actual demand read from the available data.

2.3 In certain cases the specific estimation methods and procedures in this schedule may not be appropriate or adequate. In such cases APS will use reasonable judgment in estimating the bill.

2.4 APS is not required to ask the customer to provide a meter read before estimating the bill.

### Method 1 - AMI Data

With AMI data, a monthly meter read may be missing but information for part of the month may be available through daily meter reads. If sufficient AMI data is available, typically at least 11 days of usage data, the bill will be estimated using the available AMI data.

### Method 2 – Previous Year Data

The bill will be estimated using available data for the same month last year, for the same customer at the same premises.

### Method 3 – Previous Month Data

The bill will be estimated using available data for the previous month, for the same customer at the same premises.

### Method 4 – Class Average Data

The bill will be estimated using average data for a designated class of customers.

## 3. DAILY BILL ESTIMATION

3.1 For bills that are based on daily meter information, missing data will be estimated using the most recent day for which adequate information is available for the premises. Missing weekday information will be estimated with the most recent available weekday information. Missing weekend and Holiday information will be estimated with the most recent available weekend day information. If historic daily meter information is not available for the premises, the billing determinants will be estimated using class average data.

3.2 Additional conditions for Prepay Energy Services:

(A) Company will indicate on its web portal, within 24 hours, if the daily bill has been estimated.

(B) After no more than three consecutive days of estimation Company will take appropriate action to obtain the actual meter information and



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attempt to remedy any meter, communication, or other factors causing the need for estimation.

- (C) If estimation is still necessary after three consecutive days, the Company will make reasonable efforts to avoid estimating energy usage for more than seven consecutive days. In the unlikely event a meter read cannot be obtained within seven consecutive days, the individual customer will be handled on a case by case basis and best efforts used to reach the mutual satisfaction of Customer and Company.
- (D) Company will not disconnect the customer due to a negative account balance caused by an estimated read which has not been tried up with an actual read.

### 4. HOURLY DATA ESTIMATION

4.1 Where billing information is derived from interval data, such as 15 minute or hourly intervals, the estimates will be derived from a standard validating, editing and estimating (VEE) process as follows:

- (A) Determine the kWh to be estimated: Compute the total kWh for the relevant time period by subtracting the start read from the stop read for that period, using the most recent reads. Sum the interval data for the same period to determine the kWh for the intervals having valid data. Compute the kWh for the interval data needing estimation (X): where (X) equals the total kWh for the period minus the kWh for the intervals with valid data.
- (B) Determine the reference day(s): Select a reference day (or days) to provide an estimate of the load shape for the missing interval data. The reference day shall have a load shape that resembles the time period needing estimation. Weekday load shapes will be estimated with weekday reference days, weekends with weekend reference days. Holidays will be estimated with a weekend reference day.
- (C) Replace the missing interval data with the reference day interval data for the same hour or sub-hour intervals of the day.
- (D) Scale the reference day interval data: Sum the kWh for the reference day interval data that replaced the missing interval data (Y). Create a scale factor by dividing the kWh for the section needing estimation (X) by (Y). Multiply each estimated interval data point in the period by the (X/Y) scale factor.

### 5. SPECIAL CIRCUMSTANCES

#### 5.1 Distributed Generation

The billing information for distributed generation, such as total generator output and excess power, will be estimated with the 4 methods described in



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this schedule, except that an engineering estimate may also be used if the other methods are not available.

### 5.2 Dead or Failing Meter

If the meter is dead or failing, APS will not adjust the bill until sufficient information is available from a new meter, typically 11 days or more of data. At that time any billing adjustments will be based on either the new billing information, adjusted for the days in the billing period, or Method 2 – Previous Year Data described in Section 2, whichever is lower. If APS believes that this estimate does not reasonably reflect the customer's actual usage, the estimate may be adjusted downward. Such billing adjustments are limited to three months for residential accounts and six months for non-residential accounts (See Schedule 1, Section 4.3).

### 5.3 Energy Diversion or Meter Tampering

If energy diversion or meter tampering has occurred the bill will be estimated using metered data from an auxiliary meter installed during the diversion investigation, meter information obtained after the diversion or tampering, consumption history before the diversion or tampering, or other reasonable sources of billing information as determined by Company.

### 5.4 Customer Supplied Meter Read

Some customers are approved to provide their own meter reads, consistent with ACC regulations. APS may estimate the bill if the customer fails to provide the read.

### 5.5 Meter Read Estimates Exceeding One Month

Estimates due to a malfunction of equipment that is owned or maintained by APS may exceed one month if the malfunction could not be reasonably discovered and corrected before the need for additional estimates. Estimates may also exceed one month if the equipment is owned or maintained by the customer.

## 6. TRUE-UPS OF PREVIOUS ESTIMATES

6.1 If a read from a previous month or day is estimated and a subsequent actual read is obtained, the following true-up will be performed.

### 6.2 Monthly kWh True-Up

If the current monthly kWh read is either lower than or substantially higher than the prior estimate, the kWh will be adjusted using the average kWh per day between the current read and the last valid read. The prior bill will be



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revised with the adjusted kWh applied to number of days in the billing period.

### 6.3 Daily kWh True-Up

If the current actual daily kWh read is either lower than or substantially higher than the prior estimate, the daily kWh will be adjusted using the average kWh per day between the current read and the last valid read. All prior affected daily bills will be revised with the adjusted kWh.

### 6.4 kW Demand True-Up

If kW demand was not reset and the current actual demand read is lower than the prior estimate, the previous billed demand will be adjusted downward to the new actual amount. The prior bill will be revised with the adjusted kW demand.