

# **Practices for Lesson 6: Meter Reading**

**Overview**

## Practices for Lesson 6: Overview

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### Lesson Overview

Meter reads are used to derive how much was consumed at a service point. This lesson describes basic meter reading functionality.

### Lesson Objectives

By the end of this lesson, you will be able to:

- Add a meter read.
- Describe how the system generates estimated consumption.
- Describe how the system creates the low and high boundaries used to determine if a read is sensible.
- Identify background processes used to download and upload meter reads.
- Correct meter reads that failed high/low validation during the upload.

## Practice 6-1: Add a Meter Read

### Overview

There are many ways to add a meter read. In this practice, we'll do it via Control Central.

### Task

1. Find your account on **Control Central** and then scroll down to the **Premise Information** zone in the **Account Information** page.
2. Use the **SP context menu** next to the **Electric Service Point** and select **Go To Meter Read > Add**.
3. After the meter read page opens. Please enter the following:
  - **Read Date/Time:** 02-01-2017
  - **Read Type:** Regular
  - **Register Reading:** 1000

Seq	Register Information	Read Type	Message	Register Reading	Previous Reading Information
1	KWH, format 5.0, 1.000000, Additive	Regular		1000.000000	

- Click **Save**.

*Notice that the column now contains information about how your meter read compares to the high/low limits.*

Seq	Register Information	Read Type	Message	Register Reading	Previous Reading Information
1	KWH, format 5.0, 1.000000, Additive	Regular	Usage: 1,000, Valid Usage: 514 - 1,029, Valid Readings: 514 - 1029	1000.000000	Regular, 01-01-2017, 0

4. Examine the trend record used to derive this meter's estimated consumption.
  - Navigate to **Menu > Meter Read > Trend > Search**.
  - In the Search window, select the following criteria:
    - **Trend Area:** San Francisco, California
    - **Trend Class:** Residential
    - **Unit Of Measure:** Kilowatt-Hours
    - **Time of Use:** Blank
  - Click the **Search** button.

Main							
Trend Area		San Francisco, California					
Trend Class		Residential					
Unit of Measure		Kilowatt-Hours				Measures Peak Qty <input type="checkbox"/>	
Time of Use							
Read Date		<input type="text"/> <input type="button" value="Search"/>					
		Read Date	Thread Nbr	Total Service Qty	Number of Units	Number of Reads	Average Consumption
		03-04-2013	1	555.000000	28	1	19.821429
		02-04-2013	1	523.000000	25	1	20.920000
		01-10-2013	1	92.000000	6	1	15.333333
		01-04-2013	1	615.000000	32	1	19.218750
		12-03-2012	1	595.000000	29	1	20.517241
		11-04-2012	1	579.000000	32	1	18.093750
		10-03-2012	1	574.000000	29	1	19.793103
		09-04-2012	1	614.000000	31	1	19.806452
		08-04-2012	1	634.000000	32	1	19.812500
		07-03-2012	1	575.000000	29	1	19.827586
		06-15-2012	1	490.000000	31	1	15.806452
		06-04-2012	1	654.000000	33	1	19.818182

5. Examine the trend class used during high / low checks.
  - Notice how each of the trend records has the number of reads that have been amalgamated on each row. The system adds trend records until the number of reads is greater than or equal to the threshold number of reads defined on the trend class.
  - Let's look at the trend class associated with our service point to see how many reads it requires.
6. Navigate to **Trend Class**
  - Navigate to **Admin > Consumption > Trend Class**.

Main				
Trend Class		<input type="text"/> <input type="button" value="Search"/>		
		Trend Class	Description	Number of Reads
		C	Commercial	50
		I	Industrial	50
		R	Residential	50

Our service point is governed by the Residential trend class; therefore, 50 reads are required to form a statistically significant sample (this is probably not realistic in real life but works well with the low volumes in the training database).

7. Examine the high / low factors used during high / low checks.

Now that we have the estimated daily consumption, let's find the factors that the system used to calculate the two end points of the range.

- Navigate to the **High Low Factor** page by using **Admin > Device > High Low Factor**.
- After the page populates, filter the information by selecting the following and clicking **Search**:
  - **Unit of Measure**: Kilowatt-Hours
  - **Read Type**: Regular

Main								
Unit of Measure		Kilowatt-Hours	▼	Read Type	Regular	▼	Search	
		Unit of Measure	Service Type	Read Type	Low Factor	High Factor		
+	🗑️	Kilowatt-Hours	▼	Electric	Regular	▼	0.70	1.40

## Review Questions

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1. Consumption is not calculated when a meter read is added. True/False  
*False. The consumption is calculated so that it can be compared to the high and low boundaries.*
2. Consumption is always recorded by subtracting the previous reading from the current reading. True/False  
*False. This is true for “subtractive” type registers. “Consumption” type registers do not need a previous reading because they are always reset to 0. The most common type of consumptive registers are used for electric demand (kW), but even these types of readings can be registered on a subtractive register if that's how the customer works (but this would be extremely unusual).*
3. A meter with six registers that is read monthly will have 72 register readings each year. True/False  
*True*
4. If an “estimated” read and a “regular” register reading exist around the expected meter read date, the “regular” read will be used by billing. True/False  
*True. This will be described more during the billing lesson. For now, just remember that every register read has a read type (e.g., regular versus estimated) and the read type has an implicit priority associated with it (e.g., regular reads are better than estimated reads).*
5. If a billing clerk agrees to bill a customer for some amount of consumption (that had nothing to do with the meter reading), the clerk should update the reading to reflect the desired consumption amount. True/False  
*False. The clerk could, but the clerk shouldn't. The best solution is to 1) create a new reading using a read type with a priority higher than reading that they don't want used, or 2) use any read type but mark the other reading as “do not use on bill”.*
6. The high/low boundaries against which a read's consumption was checked are saved on the reading. True/False  
*True*
7. If a reading fails high / low checks, the user must manually modify an attribute on the reading to prevent billing from using the reading. True/False  
*False. By default, the reading can still be used. Some companies don't like this option and prefer to have the default be set to “do not use on bill”. This would have to be customized by an implementer.*