

# FOCUS ON ELECTRICITY

## UNDERSTANDING YOUR ELECTRIC BILL

Your monthly electric bill is a valuable tool, although often complex and difficult to read. The first step in understanding your facility's bill is to translate it into when and how much energy is being consumed. Knowing these components will allow you to inform your energy management plan and evaluate if operating decisions are having an effect. After reviewing your facility's bills, you can make smarter energy efficient operating decisions based on the time frame and how the equipment uses energy. Once you have taken steps to lower consumption, use your energy bills to track progress toward your energy-related goals.

Table 1 on the right is a sample electric bill for a small wastewater treatment facility. This sample provides information and data to help better understand the common terms and definitions below. The demand charges (kW) represent between 30 and 40 percent of the total monthly bill. This is usually an area that can be reduced and provide substantial savings.

1. **On Peak Energy** – all energy (kWh) used during peak hours (generally M-F 09:00 to 21:00)
2. **Off Peak Energy** – all energy (kWh) used outside of peak hours
3. **Customer Charge** – monthly flat fee for administration, meter reading, billing, etc. Amount varies based on rate class (size and sophistication of service)
4. **Peak kWh Energy Use Charge** – charge for energy used during peak hours (generally M-F 09:00 to 21:00)
5. **Customer Demand** – highest kW demand during last 12 months
6. **Low-Income Assistance** – a Wisconsin state-mandated fixed fee
7. **The number of workweek days** (M-F) during the billing period (in this example, 22 days)
8. **The number of calendar days** during the billing period (in this example, 30 days)

**TABLE 1. SAMPLE ELECTRIC BILL**

Detailed Explanation		
<b>COMM IND TOU ELEC SEC</b>		
<b>Cg-20</b>		
Meter No [REDACTED]	Reading 07/23/2015	4504
	Reading 06/23/2015	- 4202
	Meter Constant	302
	KWH Used	x 80 .00000
		24,160
<b>Energy Charges/Credits</b>		
1 On Peak	7,760 KWH at \$.06591	511.46
2 Off Peak	16,400 KWH at \$.03991	654.52
	Total Energy Charges/Credits	1,165.98
3 Monthly Charges	Daily Cust Chrg (30 Days at \$3.0575)	91.73
	WI Low-Income Assistance Fee	8.87
	WI Low-Income Assistance Fee	30.01
	Total Monthly Charges	130.61
<b>System Demand</b>		
4 Peak	60 KW x \$13.243 (22 Days)	794.58
Base	48 KW x \$.06 (22 Days)	
Standby Demand	0 KW x \$2.251 (22 Days)	
	Total System Demand	794.58
5 Customer Demand	12 Month Maximum Demand	
	76 KW x \$1.669 (30 Days)	128.36
	Total Customer Demand	128.36
	<b>Total Electric Charges</b>	<b>2,219.53</b>
STATEMENT SUMMARY FOR ACCOUNT [REDACTED]		
	Previous Balance 06/23/2015	\$1,939.78
	Payment 07/20/2015	\$1,939.78CR
	Beginning Amount	\$0.00
	Electric Service	\$2,219.53
	<b>Total Amount Due 08/13/2015</b>	<b>\$2,219.53</b>

**Note:** Rates are established by each electric utility. Consult your electric account manager regarding specific energy and demand charges.



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## THE BILL COMES DUE

Your electric bill will contain separate charges for energy consumption and demand. Energy consumption is billed at a flat rate (\$/kWh) that is multiplied by the total kWh used during the billing period. Electric demand is billed at a rate (\$/kW) that is multiplied by your facility's peak demand during the billing period.

Typically, electric utilities base demand charges on daytime peak demand. Daytime or on-peak, is generally a 12-hour period weekdays (for example 9 AM to 9 PM). Utilities' generating and distribution systems are most heavily loaded during these peak use hours. Additional charges are also added for facility charges, taxes and fuel cost adjustments, but these charges are generally related to your overall electricity consumption, not your facility's demand charge. The higher your facility's electricity consumption and electric demand, the higher your utility bill.

## TRY THIS

**Reducing your on-peak demand and energy consumption, such as running equipment during off-peak hours, will have a significant effect on reducing your electric bill.**

## BENEFITS OF UNDERSTANDING YOUR BILL:

- 1 Reduce expenses:** Electricity costs represent a large controllable portion of your yearly budget.
- 2 Use the savings on other projects:** When you reduce electricity costs, you may be able to use those savings to pay for other facility needs.
- 3 Manage rising energy costs:** Electricity costs will certainly increase in the years ahead; plan now to manage these costs.



## TAKING ACTION

When you understand how your facility's electricity use is metered and billed, you can better manage your energy consumption. Then you can take steps to make operational changes to reduce these costs. For example, energy and cost-saving steps can include:

- Identifying the time of your peak demand, determining causes of this peak, and finding ways to reduce it. Consider possible strategies for shifting equipment operations into utility off-peak periods.
- Setting controls so that operation is staggered (for instance two pumps that need to operate only one hour per day should be controlled so as not to operate at the same time).
- Developing a comprehensive energy and cost reduction plan and sharing it with your operators.
- Benchmarking your energy use and evaluating trends over time.



For assistance with understanding your electric bill, and for other energy efficiency improvements needs, contact your Focus on Energy Advisor. Don't know who your energy advisor is? Visit [focusonenergy.com/ea-map](http://focusonenergy.com/ea-map).

For more information on Focus on Energy call **800.762.7077**

## SAVING ENERGY AND MONEY FOR WISCONSIN

Focus on Energy, Wisconsin utilities' statewide program for energy efficiency and renewable energy, helps eligible residents and businesses save energy and money while protecting the environment. Focus on Energy information, resources and financial incentives help to implement energy efficiency and renewable energy projects that otherwise would not be completed.

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