

# FOCUS ON ELECTRICITY

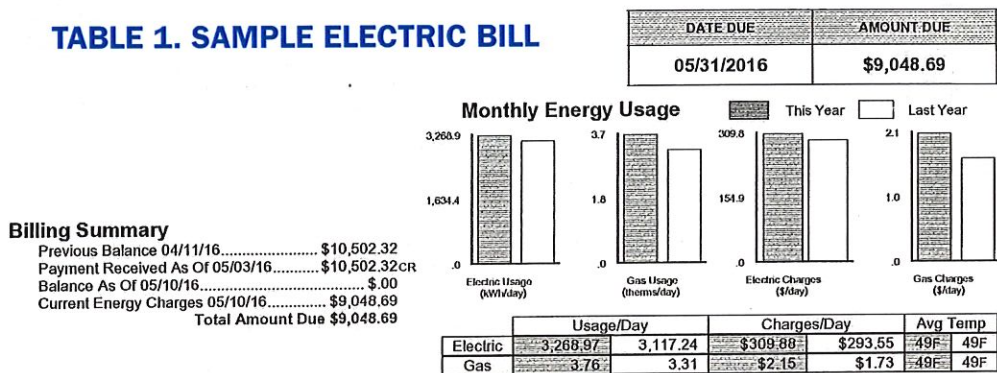
## UNDERSTANDING YOUR ELECTRIC BILL

Your monthly electric bill is a valuable tool that you should learn to read and understand. The first step in understanding your facility's bill is to learn when and how much energy you are consuming. To develop this understanding contact your electric provider account representative to review your daily, weekly and monthly electric use patterns. This knowledge will allow you to evaluate your operating procedures in order to identify if operational adjustments would reduce your use, costs and provide a strategy to include in your energy management plan.

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

1. **Billing Dates**
2. **On Peak Time Period**
3. **On Peak Energy** - all energy (kWh) used during peak hours
4. **Actual Maximum Peak Demand** - maximum demand at the facility during the reading period
5. **Billable On Peak Demand** - highest kW demand during peak hours within this billing cycle
6. **Customer Demand** - highest kW demand during last 12 months
7. **Off Peak Energy** - all energy (kWh) used outside of peak hours
8. **The number of calendar days** during the billing period
9. **Customer Charge** - monthly flat fee for administration, meter reading, billing, etc.
10. **Low-Income Assistance** - a Wisconsin state-mandated fixed fee
11. **Off Peak kWh Energy Use Charge** - charge for energy used during off peak hours
12. **On Peak kWh Energy Use Charge** - charge for energy used during peak hours
13. **Fuel Cost Adjustment** - monthly allowable adjustments made by the utility

**TABLE 1. SAMPLE ELECTRIC BILL**



**Billing Summary**

Previous Balance 04/11/16.....	\$10,502.32
Payment Received As Of 05/03/16.....	\$10,502.32CR
Balance As Of 05/10/16.....	\$ .00
Current Energy Charges 05/10/16.....	\$9,048.69
<b>Total Amount Due</b>	<b>\$9,048.69</b>

**Electric Service for 04/11/16 to 05/10/16 (29 Days) - 479 Heating Degree Days / 25 Cooling Degree Days**

<b>Electricity</b>		<b>Current Electricity Charges</b>	
Meter Number.....	PNXZT15516	Gen Secondary Large TOU Demand - CG3 29 Days	8
On Peak	6	Customer Demand Charge (244.00 kw x \$1.850000/kw).....	\$451.40
Actual Reading on 05/10/16.....	2751	On-Peak Demand Charge (176.00 kw x \$13.800000/kw).....	\$2,428.80
Actual Reading on 04/11/16.....	2662	Facilities (29 days x \$1.125900/days).....	\$32.65
Difference.....	89	State Low-Income Assistance Fee.....	\$23.78
Meter Multiplier.....	x 400	Energy - Off Peak (59,200 kWh x \$0.056220/kWh).....	\$3,328.22
<b>On Peak Electricity 35,600kWh</b>	3	Energy - On Peak (35,600 kWh x \$0.078420/kWh).....	\$2,791.75
Total	13	Fuel Cost Adjustment - On Peak	
Actual Reading on 05/10/16.....	7727	(35,600 kWh x \$0.000110-/kWh).....	\$3.92CR
Actual Reading on 04/11/16.....	7490	Fuel Cost Adjustment - Off Peak	
Difference.....	237	(59,200 kWh x \$0.001120-/kWh).....	\$66.30CR
Meter Multiplier.....	x 400	<b>Total Electricity Charges</b>	<b>\$8,986.38</b>
<b>Total Electricity 94,800kWh</b>			
4 Actual Maximum Demand (04/11/16 @ 01:30)	176.000kw		
5 Actual On-Peak Demand (04/11/16 @ 11:00)	176.000kw		
<b>Total Usage Period : 04/11/16 to 05/10/16</b>			
Billed On-Peak Demand	176.000kw		
6 Customer Demand 11/05/15 - 12/08/15	244.000kw		
<b>Total Consumption for All Meters 94,800</b>			
3 Total On-Peak Consumption 35,600			
7 Total Off-Peak Consumption 59,200			
Next Scheduled Meter Reading Date.....	06/09/16		

**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 (kWh) is billed at a rate (\$/kWh) depending on time of consumption, on-peak or off-peak, that is multiplied by the total kWh used during the billing period. Electric demand (kW) is billed at a rate (\$/kW) depending on time of consumption, on-peak or off-peak, that is multiplied by your facility's peak demand during the billing period.

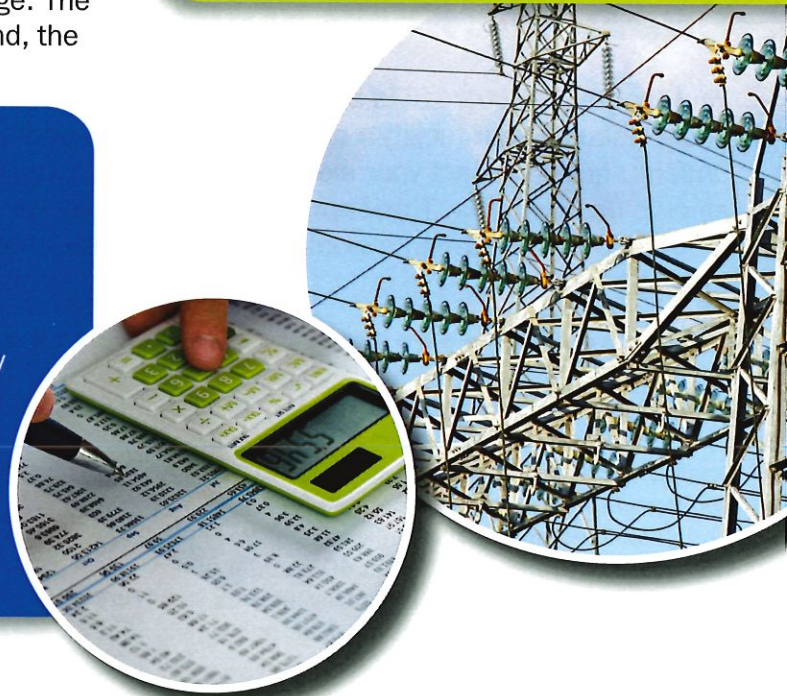
Typically, electric utilities base demand charges on daytime peak demand. Daytime or on-peak, is generally a 12-hour period weekdays (for example 8 AM to 8 PM). Utilities' generating and distribution systems are most heavily loaded during these on-peak use hours. Additional charges are also added for 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 electrical 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:** Electric costs represent a large manageable portion of your yearly budget.
- 2 Use the savings on other projects:** When you can show on your utility bill that you reduced your electricity usage and cost, you may be able to use those savings to fund other facility needs.
- 3 Manage rising energy costs:** Electricity costs will certainly increase in the years ahead; become proactive and start managing these costs now.



## TAKING ACTION

When you understand how your facility's electric 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 on-peak demand, determine the causes of this peak use, and identify ways to reduce it. Consider possible strategies to shift equipment operations into electric utility off-peak periods.
- Set controls so operations are staggered (for instance two pumps that need to operate only one hour per day should be controlled so do not operate at the same time).
- Develop a comprehensive energy and cost reduction plan and share it with your operators.
- Benchmark your energy use and evaluate trends over time.

For assistance with understanding your electric bill, and for other energy efficiency improvement needs, contact your Focus on Energy Advisor. For more information on the Focus on Energy's Agriculture, Schools and Government (AgSG) Program, call **888.947.7828** to speak with an AgSG Representative.

## 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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