



# Watt's Next? Save on Juice!

*Tips for keeping  
electrical utility bills  
in check*

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**By Ed Kwasnick**

lectricity is the least-expensive and least-tracked utility cost in a laundry. But while natural gas and water get the spotlight, there are still things you can do to save on your electrical bill.

These days, launderers can't afford to miss any opportunity to control costs. Moreover, it makes sense to save wherever you can. Think back to your school days and you may recall the (inflation-adjusted) words of Ben Franklin, who once said, "A dollar saved is

a dollar earned." I'd like to add a modern corollary to that saying—one that's well suited to today's textile service companies: It makes no difference where the dollar you save comes from.

### **Demand (kW) vs. usage (kWh)**

In a commercial laundry, like any industrial operation, demand is the maximum amount of power you use at any given moment. It's measured in kilowatts. The more demand you have, the more the electric company is going to charge you. It's measured instantaneously and you're charged for the entire billing period, based on the total maximum power you used for that moment in time. Let's



say that you walk into the plant on the first day of the month and turn on all of the plant equipment, lights, fans, office equipment, air conditioning, etc. You wait about an hour, and then you shut down the entire plant for the rest of the month. The electric company will bill you a demand charge based on the maximum power you used during that hour. Even if you don't run the plant the rest of the month, you'll be billed a demand charge, and it will be about the same charge you would receive if you ran the entire month.

Usage is the amount of electricity you use over time. It's measured in kilowatt-hours (kwh). Unlike demand, usage charges depend on the amount of time you operate. So the longer the plant runs, the more electricity you use, and the higher your usage charges.

Your electric bill reflects both demand and usage charges. Below are some methods you can use to save money on both parts of your electric bill.

### **Turnoffs & staggered starts**

It's just like your mother used to say, "Turn it off if you're not using it." This rule applies both at home and in the plant. Make sure you turn off all lights, equipment, fans, HVAC systems, etc. when they're not in use. Your plant lighting should be zoned so you can turn off lights in areas that are shut down, while you leave the lights on in areas that are still operating. Equipment should be shut down as soon as it's no longer needed. It's common to have a 15-20 minute gap between the end of production and final equipment shutdown. If this happens five days per week, you're paying for an extra

3,900-5,200 minutes of electrical usage per year.

Equipment with large electrical loads such as washers and air compressors draw maximum electricity at specific times. For example, a washer/extractor will draw maximum amps when it starts to go into extract. Basically, the washer has to work the hardest when it's trying to get a full load of goods to go from 0 to 300 G's. An air compressor will work harder when you first turn it on because it expends maximum energy to bring the entire compressed air system up to pressure. Therefore, to minimize your demand charges, you need to make sure that your equipment isn't using maximum electricity at the exact same moment. For example, let's say your plant uses washer/extractors. You should never start all of the washers on the same formula at the same time. If you do, all of the washers will go into extract at the same time. They will pull maximum amps, and your demand charge will go through the roof.

The same goes for your air compressors. If you have two or more air compressors that operate simultaneously, you should start up one and let it reach maximum pressure before you start up the next air compressor. This will minimize your electrical demand charges.

### **Leaks, efficiency & loading**

Your air compressor is one of the heaviest electricity users in the plant. The air compressor uses maximum electricity when it's pressurizing the compressed air system. As the equipment uses air, the system pressure drops. The air compressor then runs to raise the pressure back to its maximum limit. If you have air leaks, the system will lose pressure faster and the air compressor will have to run more often to increase the system pressure. Thus, you will use more electricity. Here's an interesting example. You start-up your air compressor first thing in the morning; it takes about 10 minutes to pressurize the system. The air compressor cycles off once it reaches maximum pressure. Let's assume you have no air leaks and none of the plant equipment is operating. Your air compressor will not have to run again because the system will maintain this maximum pressure on its own. However, let's assume you have multiple air leaks that cause the system to reach minimum pressure in about 15 minutes. The air compressor will have to cycle on four times per hour and will use a lot more electricity just to hold pressure.

Using newer equipment with high-efficiency motors will reduce your electrical bill. These motors do not require as much power during start-up. Therefore, they're designed to lower your electrical demand, thereby lowering your costs. In addition, equipment belts need proper tension. A belt that's too loose increases power consumption. As the belt slips, the motor has to work harder to get the load moving. Poorly maintained bearings also cause a spike in electricity use. Insufficient lubrication causes higher friction, which means motors must work harder to get the load in motion.

You also should make sure your washroom equipment is properly loaded. Overloading a washer/extractor will cause the drive motor to use more electricity to get the goods moving. The heavier the load, the more energy it takes to wash and extract. However, underloading is also a problem. If a washer/extractor is underloaded, it may take multiple attempts to get the load to balance during extraction. Each time the washer goes into extract, it is pulling maximum amps. Therefore, if it takes three attempts to balance, then you have used three times the energy and electricity during the balancing part of extraction.

Another area to check is electrical links. Make sure all terminals are clean and the connections are tight. If lint, corrosion, dirt or other substances build up on electrical terminals, this will cause additional resistance in the system. The electrons have to work much harder to overcome this resistance and pass from the wires to the motor. That, in turn, causes equipment to draw more electricity. The same thing will happen if electrical connections become loose due to vibration. A small air gap may develop, causing additional resistance and a higher electrical draw.

### **Trust but verify**

While much of the focus on saving electricity relates to plant oper-

ations, another element centers on working closely with your utility company. In essence, you need to verify that you're getting the best rates from your electric company. As your electrical demand and usage increase, you may qualify for a lower rate structure. However, most electric companies won't notify you that you may qualify for a lower rate. It's your responsibility to review your bill, get the latest rate structure from the electric company, and determine if you're getting the best deal possible. Most electric companies have customer-service representatives who can help answer

questions and point you in the right direction. However, this situation stands out as a compelling example of the old adage "if you want it done right, do it yourself." Taking a proactive stance on your electricity consumption can enable you to reap significant savings from your utility provider.

How? Well, let's face it: We all make mistakes—even your electric company. Sometimes your meter can malfunction or be misread. If this happens, you could end up paying more than your fair share. To protect yourself, you need to read your meter and review your bill regularly. Knowledge is power (pardon the pun). If you know how much electricity you've used in the past, you can compare that to your current bill and determine if the electric company has made a mistake. For example, let's say you get your electric bill for April and you notice that it's twice as expensive as usual. When you review the bill in detail, you realize that the demand is in the normal range, but you used twice as many kwh as you did the month before. Yet, your production volume hasn't increased, you haven't extended your operating hours, and you haven't installed any new equipment or lights. Then you go back and review last year's April bill, which shows that you used half as many kwh. Based on this information, there's a good chance the electric company has made a mistake. It's up to you to bring it to their attention, so you don't get overcharged.

### Kilowatts—minute by minute

In the final analysis, there's no "silver bullet" for saving electricity. What it really comes down to is hard work, common sense and doing the following:

- Implementing standard procedures (e.g. staggered start-up, turn off equipment, etc.)
- Performing proper maintenance (e.g. fix air leaks, clean electrical connections, etc.)
- Reading your meter and bill (i.e., knowledge is power)

And remember, no matter where you find it, a dollar is still a dollar. **TR**



*Ed Kwasnick is president of Turn-Key Industrial Engineering Services Inc., Charlottesville, VA, Contact him at 434/962-8075 or e-mail [kwasnick@turnkeyies.com](mailto:kwasnick@turnkeyies.com).*