



TEDDER'S TECHNICAL FACTS

Spring 2006

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Submetering Can Reduce Electric Energy Expense Without Spending Big Bucks Doing It



Electricity is a necessary expense for all companies. Whether you operate a foundry, steel mill, petrochemical company, hospital or grocery store, you can't run your business without electricity. But what do you do when electricity costs go up? Understanding and implementing [electricity management techniques](#) has received a great deal of attention in recent years because of three major factors:

- ⇒ Increasing pressure to reduce operational costs
- ⇒ Increasingly complex utility rate structures and electricity price fluctuations with deregulation
- ⇒ Rising attention to power quality and reliability issues at every type of facility

Among benefits that electricity monitoring offers an organization are reduced maintenance costs, anticipation of a potential failure and improved overall productivity. A robust electricity metering and monitoring system can also be helpful for tracking historical use trends and curbing electricity demand based upon predetermined load-shedding criteria.

Although submetering technology has existed for some time, there [is renewed attention from energy-conscious regions such as Southern California](#). This sophisticated technology succeeds by gathering and delivering to facility operators real-time energy use data, so proactive measures can be taken to significantly reduce bottom line costs. Submeters are both low-cost and safe, since electricians don't need to power down a load for installation and neither commercial nor residential buildings need major changes to accommodate. Indeed, installation is simply a matter of hooking three current sensors around the electrical feeds being measured and the meter can be mounted almost anywhere.

Under a submetering program, individual meters are installed in units across a property and, as a result, end users shoulder more ownership over their electric use. It's an excellent way for property owners to gain control over a significant and unpredictable expense by passing over the payment and usage responsibility to the people who actually use the electricity inside the property.



On properties large and small, contractors can help their customers with increased information and decision-making power by installing meters at specific "electrical use" sites.



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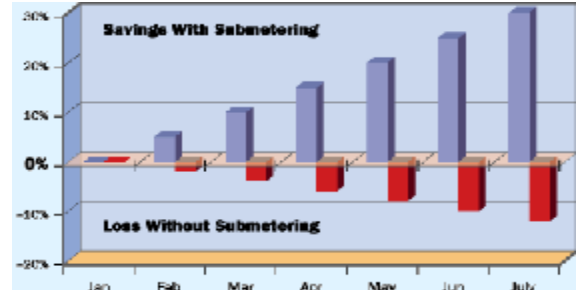
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Studies have shown that a 7% to 15% cost saving can be achieved by simply allocating electricity to its proper user. Not only is this method more equitable than lumping various users or departments onto one bill, it gives facility managers a way to view and control how energy is allocated at their sites. If governmental or company incentives are involved, individual energy users are empowered to lower their own usage and reap financial benefits, while skirting penalties for another tenant's or co-worker's poor energy habits.

Typical facilities suitable for submetering cost allocation measures, include:

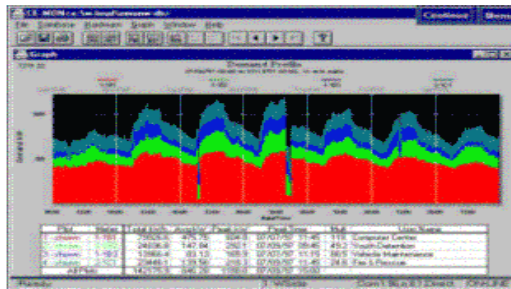
- ⇒ Government facilities
- ⇒ Hospitals
- ⇒ Airports
- ⇒ Schools and universities
- ⇒ Multifamily dwellings
- ⇒ Shopping centers
- ⇒ Industrial facilities
- ⇒ Commercial Offices



Submetering savings can make a difference in energy costs of up to 35%!

Submetering, combined with a quality software, can permit comprehensive energy profiling at a facility and it's more essential than ever to determine that facility's energy demand and usage levels.

Information garnered from tracking electricity usage this way can then be used for peak shaving, load shedding, aggregation and other measures, leading to lowered energy bills. Submetering devices provide a facility manager with energy consumption data showing how slices of the "energy pie" are distributed to the building or plant's various departments, tenants, or processes.



Use submetering energy consumption data (with compatible software) to illustrate energy demand & use patterns in charts and graphs.

Submetering lets the facility manager define focused energy usage, clear down to a 15A branch circuit. Such precise metering happens by tracking demand (kW) and usage (kWh), then aggregating the data. Appropriate software lets the user manipulate and display this raw information on either a centralized or a remote Windows-based PC operator interface.

Submetering, used as a system "watchdog," informs the manager of any pattern changes in energy usage. It can also act as a power quality assessment by drawing attention to possible anomalies from expected electrical system performance. Up at the enterprise level, submetering allows facility managers to accurately assess energy usage by specific areas, enabling a highlighting of energy efficiency opportunities across the facility. They can then implement appropriate electrical demand "shedding" or "rolling." On the plant floor, submetering allows engineers to precisely evaluate the performance of individual machinery and processes, as well as to identify inefficiencies and previously unknown opportunities to increase productivity.

Although Hampton Tedder does not sell or install submetering systems, we have strategic alliances with contractors who do and we'll point you in the right direction. Call any of our district offices listed in the sidebar or contact us at james.petroff@hamptontedder.com.

Pay a visit to: www.hamptontedder.com