

REAL ESTATE WEEKLY

WEDNESDAY, JULY 27, 2011

10 tips for successful sub-metering

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As building owners seek to lower operating costs while making their buildings more sustainable, sub-metering has become a critical part of building management strategies.

The sub-metering process helps owners achieve energy accountability in a couple of ways. It enables a landlord to bill tenants directly for their energy usage, providing an incentive for tenants to conserve.

Sub-metering also establishes the quality data foundation necessary to account for overall energy use in facilities, which allows an owner to create greater efficiencies.

While sub-metering is not technically complex, putting a comprehensive program in place requires careful planning. Here then are 10 tips for how an owner can successfully implement an effective sub-metering system:

Tip #1: Specify and install revenue grade electric meters with split core current transformers and make sure these meters have the ability to push data to the Web. While somewhat more expensive, revenue grade meters provide the greatest accuracy (+/- 0.2%), and will end up saving money in the long run. With the ability to push data to the web, owners can engage a third party service to monitor equipment operation remotely, generating optimal energy savings.

Tip # 2: Reference test electric meters with



a certified power analyzer after installation. A power analyzer can monitor demand and energy parameters as well as a multitude of data displays such as phasors, harmonic spectrums and monitoring sag/swell detection. Testing of electric meters will verify that the current transformers and voltage taps were accurately installed by an electrician and the

meter is accurate.

Tip # 3: Make sure meter installation is in accordance with tenant lease and billing procedures. With many new "green leases" allowing owners to pass on the cost of energy improvements, it is important that the sub-metering program fulfill the requirements of the lease. An example would be Coincidental Demand, which is the sum of two or more demands that occur in the same time interval as the Con Edison meter.

Tip # 4: Reconcile a front-end metering system with local meters by manually and remotely reading system for a three month period. A new sub-metering system needs to be checked over an initial three month period to verify accuracy by comparing at least two billing periods.

Tip # 5: Hire a sub-metering firm that understands "data collection" to provide billing services. Data collection enables an owner to fully analyze all the operating variables that affect energy consumption. The firm he hires must use CAVEE (Customer Association,

Validation, Editing and Estimate), a requirement for providers other than the utilities to be eligible to perform meter and meter data services in New York State.

Tip # 6: Hire a sub-metering firm that is a Certified Meter Data Service Provider and is familiar with utility rate classes. Certified firms have proven they have the expertise and equipment to perform complex metering and data collection tasks.

Tip# 7: Work with a sub-metering firm that has qualified Billing Analysts who can talk to tenants about their utility bills. The ability to communicate with tenants about the nuances of utility billing procedures is extremely important, especially with leases that accommodate many of the available utility rebates.

Tip # 8: Work with a sub-metering firm that has a monitoring service which can analyze tenant usage. Monitoring enables an owner to optimize equipment efficiencies, creating energy savings that go beyond the standard upgrades most buildings employ.

Tip # 9: Work with a sub-metering firm that provides Service Maintenance Contracts for ongoing Meter Reference Testing. Testing of 1/3 of all meters per year is recommended to maintain the integrity of the system.

Tip # 10: Work with a submetering firm that provides billing services for all utilities such as water, gas, steam and electric. This firm should also have the capability to look for energy incentives to help cover meter installation costs.