

November 2011

Top Five Ways to Reduce Power Usage and Costs

by David Geer

Here's a twist on the list of most certain things to happen in life: death, taxes, data center power costs, and consumption. We can't do anything about the first two, but Karl Robohm, DOE-certified Data Center Energy Practitioner, offers some tips that might make a dent in the third category:

1. **Rebates.** Utility companies are increasingly offering rebates to data centers that purchase energy-efficient products. For example, upgrade from 208-volt transformers to 240-volt and receive a rebate based on the energy savings. Rebates may also apply to new data center builds. Contact your local utility.
2. **High-Efficiency Harmonic Mitigating Transformers.** IT equipment produces harmonic distortions that affect generators and other devices making them much less efficient. High Efficiency Harmonic Mitigating Transformers cancel out harmonics, decrease unnecessary power utilization, and increase the potential of affected devices.
3. **Variable Frequency Drives (VFDs).** Legacy drives in pumps, CRAC units and other equipment run at constant speeds that are often higher than needed. By replacing them with VFDs, data centers can reduce or vary the speeds. With fans, this can save up to 30 percent of the power used to push air.
4. **Granular analysis of power utilization.** Better metering tools such as data center monitoring systems help to analyze its power utilization at a fine grain level. With specifics about individual equipment loads and power costs in hand, you can effectively lower operating expenses and improve PUE ratio.
5. **IGBT controllers.** IGBT (insulated-gate bipolar transistor) controllers make power transfer more efficient. In UPS devices, they replace transformers creating a new breed of transformerless UPS that maximizes power while minimizing equipment footprint. You should consider IGBT-based technologies when a UPS nears its end of life or needs an upgrade.

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