

CONTINUOUS OPERATIONAL IMPROVEMENT

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May 29, 2007

PRESENTATION OVERVIEW

- Why focus on Operations & Maintenance?
- Major O&M program types & structure
- Potential savings from a strong O&M plan
- Eco-friendly leasing tips
- Resources to get your job done

WHY FOCUS ON O&M?

- Typical O&M plans are low or no cost in nature
- Most plans can be set-up by in house personnel
- O&M can have an immediate payback
- O&M plans rarely require the time that designing, bidding, evaluating and completing a capital project

WHY FOCUS ON O&M

- Optimize the operation of existing systems
- Improve building comfort and tenant satisfaction within the capabilities of the installed system
- Reduce building energy cost
- Solve indoor air quality problems
- Guarantee continuous optimal operation for years to come
- Reduce operational and maintenance costs

TYPES OF MAINTENANCE PROGRAMS

- Reactive
- Preventative
- Predictive/Continuous Commissioning
- Reliability Centered Maintenance

GETTING STARTED

- Gather all building specific system data
- Investigate and document the condition of the building systems
- Solve existing problems in the building within the capabilities of the installed system
- Optimize building energy systems and formalize operational procedures
- Measure and document the energy savings and comfort improvements
- Provide for on-going monitoring of system operation

QUICK HITS

- Upgrade to more efficient HVAC filters
- Review sensor locations
- Use all the features in your energy management system
- Ask questions!



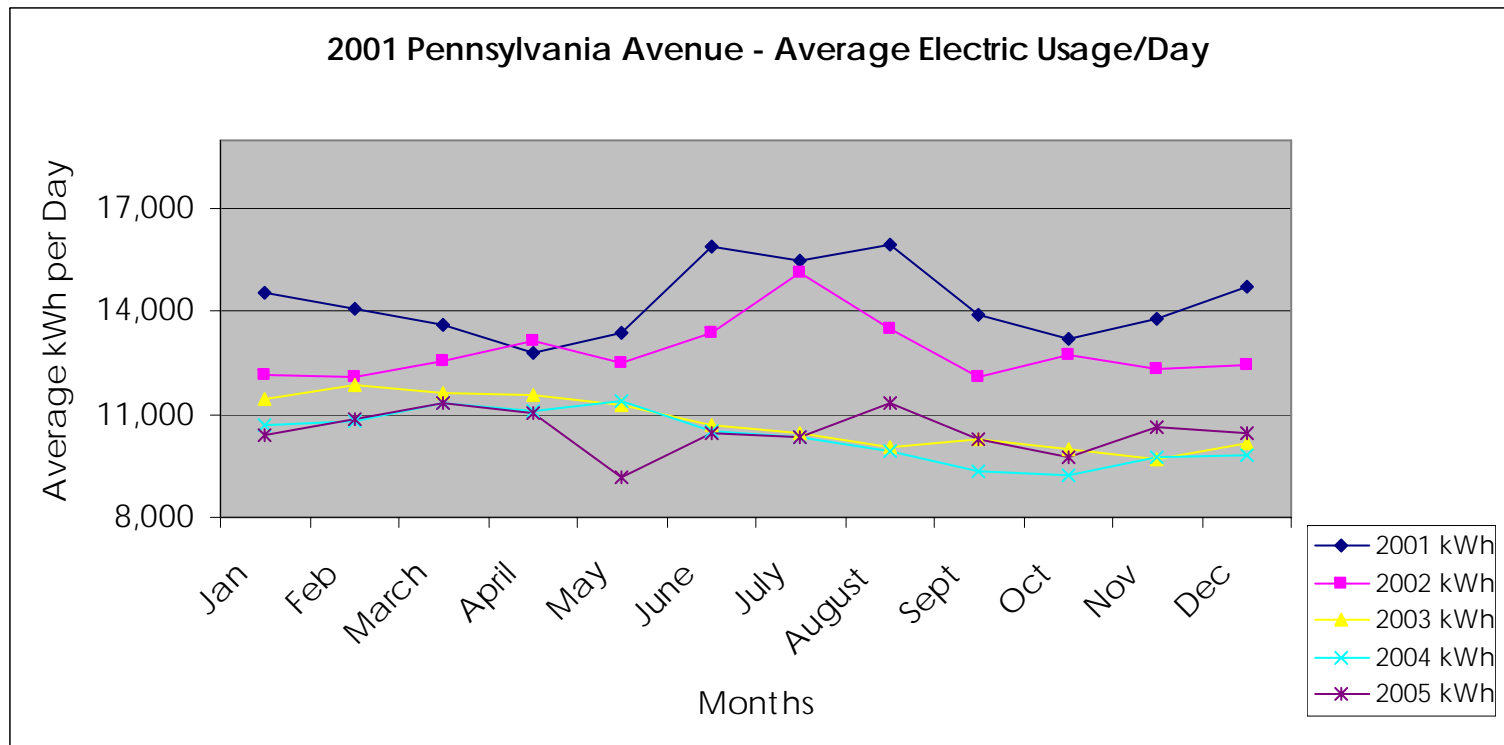
2001 PENNSYLVANIA AVENUE CASE STUDY

What we did:

- Instituted proper preventative maintenance
- Repaired and replaced non-functioning equipment
- Relocated outside air sensors
- Balanced air flow throughout the building
- Replaced lighting with lease rollover
- Reprogrammed energy management system

2001 PENNSYLVANIA AVENUE

REDUCTION IN AVERAGE ELECTRIC USAGE



ECO-FRIENDLY LEASING TIPS

- Review & update your building standards & work rules
- Provide for efficiency upgrades to be amortized and passed through to your tenants
- Include energy & sustainability guidelines in the Work Letter incorporated into your leases

RESOURCES

- FEMP Operations & Maintenance Best Practices Guide
www1.eere.energy.gov/femp
- BOMA Preventative Maintenance & Building Operations Efficiency
www.boma.org
- BOMA Energy Efficiency Program (BEEP)
www.boma.org/TrainingAndEducation/BEEP/
- Energy Star Guidelines for Energy Management
www.energystar.gov/index.cfm?c=guidelines.guidelines_index
- ...and many more