

***New systems and controls reduce CUP electrical usage by half in only two years.***

**Background**

EnergyWorks owns and operates the central utility plant (CUP) and energy distribution infrastructure that provides electrical, heating and cooling services to the 1.2 million sq. ft. Park City Center shopping complex in Lancaster, Pennsylvania. The CUP has been in continuous service since the complex began commercial operations in 1970.

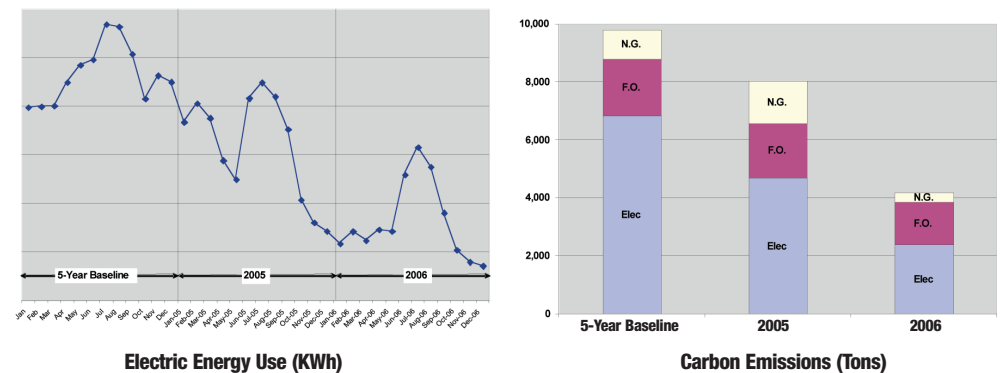
Since acquiring the Park City energy infrastructure and assuming responsibility for operations and asset management in late 2003, EnergyWorks has modernized the CUP by replacing or upgrading major equipment and implementing state-of-the-art management systems. These measures have reduced the annual CUP electrical consumption by over 50% and have improved the consistency of comfort and indoor air quality within the mall complex.



**CUP's "carbon footprint" is also lowered by 5,605 tons.**

During its first year of ownership, EnergyWorks reconditioned critical systems components and compiled data to establish a 5-year (2000-2004) performance baseline. Capital improvements during the second year dramatically reduced CUP energy use. Additional capital improvements and optimization of operations during the third year provided further reductions in CUP energy consumption.

**Park City CUP Trends**



In addition to annual cost savings, other benefits have been realized from the lower CUP energy consumption. The Park City CUP "carbon footprint" has been reduced from the 5-year baseline by over 11.2 million pounds/year. Increased efficiency has also enabled the CUP to supply energy services for a 58,000 sq ft expansion to the mall complex without adding new capacity.

# Onsite power generation planned to mitigate future energy cost increases.

EnergyWorks employs advanced communications and control technologies that provide virtually unlimited capabilities to remotely monitor and control CUP operations. High accuracy sensors gather real-time data on equipment, meteorological conditions, process parameters and host facility status to record, analyze, display and control plant operations. Custom displays and reports provide shift operators, plant supervisors, engineering staff and management with access to essential information from anywhere at anytime. A web-based, computerized maintenance & management system (CMMS) provides remote access to historical and current maintenance data. The system also provides the ability for host facility management and tenants to initiate and follow-up on Trouble Notices and Service Requests using standard Internet browsers.

## CUP Technical Features

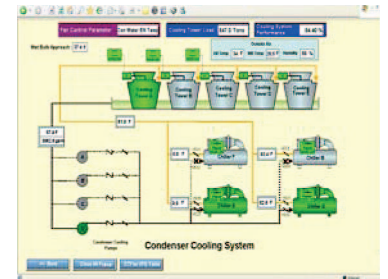
- Housed in a 30,000 sq. ft. structure, located 1,000 ft. from the main mall building.
- Dedicated substation with 69,000 volt supply; transformed to 4160 volts for primary distribution.
- Primary distribution to 16 substations from the CUP; service is metered at over 200 locations.
- Four pipe heating and cooling system; variable flow pumping to over 200 air handling units.
- Two dual-fuel boilers produce up to 1,000 HP (29,000 lb/hr) of low pressure steam.
- Four electric-driven centrifugal chillers provide 3,350 tons of chilled water capacity.
- Five induced draft cooling towers with variable speed fans provide up to 4,000 tons of cooling.
- Onsite power generation system planned to begin operations in 2008.
- Dedicated onsite operations and maintenance staff.



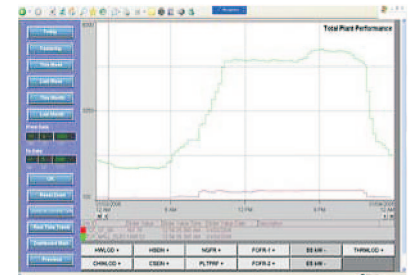
## Monitoring & Control System Displays



Main Dashboard Display



System Mimic Display



Trend Display



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