

Energy Savings Performance Contracting

Saving Facility Resources

Case Study

SIEMENS

Mukilteo School District



Project Description:

Seventeen schools in the Mukilteo School District received lighting retrofits to replace older higher wattage T-12 fluorescent lamps with new lower wattage lamps and electronic ballasts. Other lamps, such as incandescent, mercury vapor, metal halide, were replaced with more efficient compact fluorescent and T-5 lamps and electronic ballasts.

Project Completed Total: June, 2004
Project Cost: \$1,224,336
Project Number: GA Project #2002-128 (2-1)

Annual Energy Project Savings:

Electrical	\$109,446	kWh	1,499,257
Natural Gas	\$-316	Therms	-4,223
Fuel			
Water		Gallons	
Maintenance			
Total Avoided Costs:			
Guaranteed	\$96,729	Actual	\$101,778

Funding Sources:

Loans:	\$769,927
Utility Incentives:	\$196,252
Other:	\$0

Project Managers:

Client Contact Information:

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Mukilteo School District
Facilities Operations Manager
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General Administration's Contact:

Jim Hayes
P.E, Energy Engineer
Dept. of General Administration
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Energy Service Company's Contact:

Dan Hering
Manager
Siemens Industry, Inc.
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Highlights:

During the first year M&V period, the measurement shows a total cost avoidance of \$101,778 which is 5.2% or \$5,049 above the projected guaranteed savings.

Siemens Industries, Inc. M&V Report

Emission Reductions:

Annual Reduction in CO2:

1,146,196 pounds per year

Annual CO2 Reduction Represents:

- ❖ **Removing 76 Cars from the road, or**
- ❖ **Planting 156 acres of trees, or**
- ❖ **Powering 111 Homes**

Monitoring & verification report details

- Siemens measured the energy use of selected existing lighting systems prior to retrofit work. Then, performed a post-retrofit energy use measurement on the same or similar fixtures as pre-retrofit measurements.

Outcome:

- The lighting retrofits have reduced electrical energy used for lighting buildings.
- Less comfort cooling will be required when the facility is in cooling mode.
- Less comfort heating will be required when the facility is in heating mode.

Analysis:

- The 3-year lamp and 5-year ballast warranty reduces the cost for lamp material over the first 3 years, or ballasts material over the first 5 years following.

For more information: email GAEnergyTeam@ga.wa.gov
Visit our web site at <http://www.ga.wa.gov/EAS/epc/espc.htm>