



An Energy Efficiency Workshop & Exposition

Palm Springs, California

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and***

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An Energy Efficiency Workshop & Exposition

Palm Springs, California

Sherman Indian High School
Riverside, CA

Classroom Lessons

Tim Kehrli, TLK Consulting

DOE/NREL



Sherman Indian High School

- ❑ Located in Riverside, CA (SE of LA)
- ❑ 500,000 sq ft. classroom and dormitories
- ❑ 350 to 650 student boarding population
- ❑ Most HVAC equipment in excess of 30 years old
- ❑ School closed during summer break



2002 Energy Baselines

- Electricity: 3,756,000 kWh \$353,881
- Natural Gas: 140,743 Therms \$66,873
- Water: 36,818 ccf \$28,851



2002 Proposed Savings and ECM's

ECM Description/Title	Annual Savings							Installed Cost	Simple ECM Payback
	kWh	Therms	(Equiv. Btu's) in MMBTU	Demand Reduction	Energy Dollar Savings	O&M or Other Savings	Total Savings		
Lighting	929,186	0	3,172	293	\$ 88,040	\$ 4,760	\$ 92,800	\$852,346	9.2
Photovoltaic System	13,803	0	47	5	\$ 1,047		\$ 1,047	\$58,355	55.7
HVAC Mods., Bldg. 60 & One Dorm	558,451		1,907	96	\$ 53,894	\$ 25,000	\$ 78,894	\$1,384,530	17.5
HVAC Mods., Bldg. 60 & One Dorm		41,602	4,160		\$ 19,050		\$ 19,050		
Weight Room & Water Pump Time Clocks	1,617		6	34	\$ 1,894		\$ 1,894	\$4,487	2.4
Weight Room & Water Pump Time Clocks		700	70						
Pool Cover & Ventilation Controls	57,893		198	0	\$ 10,517		\$ 10,517	\$45,201	4.3
Pool Cover & Ventilation Controls		12,923	1,292						
Pool Pump VFD & Controls	23,303		80	12	\$ 4,843		\$ 4,843	\$21,351	4.4
	1,584,253	55,225	10,931	440	\$ 179,285	\$ 29,760	\$ 209,045	\$ 2,366,270	11.3



Performance Phase Services

- SHIS Staff responsible for all maintenance and operation activities
- Sempra Energy Services responsible for all repair and replacement activities
- SES responsible for ensuring all m&o activities are carried out in accordance with contract



Project Impact to School Operations

- Most ECM's installed during summer break
- PV system configured to supply clean power to computer network and phone systems
- System reliability allows M&O staff to work on other activities



2002 Educational Opportunities

- PV installation and operation used for regional and classroom training topics
- Staff instruction in pool operation of ventilation and pool cover
- Sempra oversight provides regular opportunity for process improvement



Lessons Learned – Maintenance

- M&O staff has ongoing FTE shortages which require regular training and easy system instructions
- Conflict between immediate problem resolution and long term solution with teaching staff
- Student dorm population presents unique challenges



2002 Lessoned Learned – Educational

- Classroom champion necessary for ongoing utilization of technology lesson opportunities
- Better coordination between education and maintenance leadership would help long term education opportunities



QUESTIONS



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