

Energy Conservation Initiative (ECI) Project Summary

Mann Library and Mann Library Addition, Facility 1027,1027A

What We Did:

Mann Library

We updated the sequences of operations to incorporate demand controlled ventilation allowing a reduction in minimum outdoor air setpoints in the air handling systems. Pumps were added to the preheat coils on the air handlers allowing better temperature control while reducing nuisance trips in cold weather. Adjustable speed drives were installed on multiple make up units and exhaust fans.

Mann Library Addition

Outdated controls were replaced throughout the space and central mechanical systems. Airflow stations were added to allow accurate control of outdoor air entering the building. Updated variable air volume (VAV) box controls enable improved temperature control throughout the building, occupancy sensor based unoccupied mode, and adaptive fan static pressure setpoint reset.

What It Cost: \$840,000

How Long It Took: 12 months.
Completed May 2014.

What We Saved: \$150,000 and 198 tons/per year carbon equivalent annually.

Benefits:

The new controls allow the fan, pump and temperature control systems to be adaptive to user occupancy and significantly reduce energy usage. They also improve comfort and make maintenance much faster due to enhanced graphics, trends, and summary data.

Updating the controls in Mann Addition along with the coordination of the building management systems between Mann and Mann Addition has resulted in a dramatic reduction of energy use at our facility. FY2014 is over 30% less than 2012!

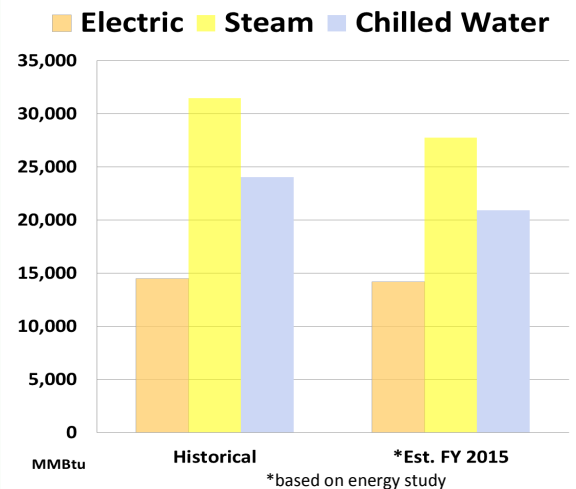
Peter D. Paradise
Sr Director Facilities

Mann Library



[Map](#)
[Utilities Costs and Use](#)

Mann Library and Mann Library Addition,
Total Energy Use - Pre & Post ECI



Mann Library and Mann Library Addition: ECI Savings Table

Utility	Historical Energy Use (MMBtu)	*FY 2015 Energy Use (MMBtu)	Energy Savings (MMBtu)	% REDUCTION	Historical Cost (billed rates)	* FY 2015 Cost (billed)	Annual Savings \$	Equivalent # Homes
Electric	14,500	14,000	500	3%	297,000	290,000	7,000	13
Steam	31,500	28,000	3,500	11%	710,000	630,000	80,000	39
Chilled Water	24,000	21,000	3,000	13%	440,000	380,000	60,000	60
Totals	70,000	63,000	7,000	10%	1,450,000	1,300,000	150,000	111



Energy use based on project scope

Equivalent # Homes Savings based on average home use: 40 MMBtu Electric • 90 MMBtu Heat • 50 MMBtu Cooling

