

Newmark Civil Engineering Building #24



Building Gross Sq.Ft.: 183,931

Simple Payback: 2.8 YRS

Retrocommissioned: Jan—Feb 2008

Annual Energy Avoidance: 21%
(Based on one year's non-normalized data)

Principal Building Use: Laboratories, Classrooms, and Offices

Facility Contact: Timothy Prunkard

Building & Occupant Overview

The Newmark Structural Engineering Laboratory is a very capable building to carry out various testing and research dedicated to state-of-the-art civil engineering topics. Original construction of the building was completed in 1964. The building occupancy shifts from instruction in the morning to research at night. Cooling is provided by means of campus chilled water. The heat in the building is provided by multiple combination steam and hydronic systems.

The facility's total metered energy during the previous year was 58,682 MMBTU.



Post RCx Energy Use Intensity (EUI) & Cost Index (ECI)

E.U.I.	E.C.I. #1	E.C.I. #2*
251.2 kBtu / Sq.Ft.	\$4.11 / Sq.Ft.	NA

Retrocommissioning Specifics & Results

Newmark is a 1960's building with original systems and controls. Savings were accomplished by restoring the units to their original design, while increasing or decreasing their respective airflows due to new demands.

Much space is used for office area, therefore chilled water savings, fan savings and steam savings could all be realized during off hours. New programmable controls replaced worn out pneumatic controls, realizing savings through improved sequences. Performing airflow balancing, caring for deferred maintenance and unit controls the results are saving energy and utility costs. A follow-up team installed new controls during Mar. 2008 to May 2008.

The new addition is nearing completion. This is expected to increase the energy use of the building and therefore change the energy base line for remaining comparisons.

Project Highlights

- Occupancy schedules were used to reduce fan systems at night & close outdoor air dampers
- Repaired faulty/non-functioning controls for **28** air handling units
- Provided DDC Controls and web graphics for 9 dominant air handling units
- Enhanced humidity control thereby saving chilled water costs; even for lab units!
- Reduced number of exhaust fans and/or air quantities
- Replaced thermostats from aspirating to wall mount throughout building for better temperature control
- Advised departments to consolidate servers to one room