

San Diego State University was awarded the Best Practices Award for its Monitoring Based Commissioning Project at Chemical Sciences Laboratory at the 2006 UC/CSU/ CCC Sustainability Conference. The commissioning team, consisting of Enpowered Solutions as the Commissioning Agent, Newmatic Engineering as the laboratory system commissioning contractor, and personnel from San Diego State University operations, were able to reduce energy usage in this energy intensive building by 15%.

The commissioning team identified over 100 corrective actions which were implemented during the project.

BUILDING/PROJECT SUMMARY

Building Area:

57,600 square feet

Annual Energy Savings:

410,000 kWh electricity

480,000 ton-hours central plant chilled water

6,900 MMBTUH central plant steam

Project Economics:

\$180,000 annual energy cost savings

\$114,000 project cost

8 month simple payback period

Greenhouse Gas Reductions:

575,000 lbs/year of CO₂



Measures Implemented Included:

- Reduced minimum air change rate from 12 to 6 air changes per hour
- Repaired failed laboratory fume hood and room pressurization controllers
- Replaced failed fume hood valve linkages
- Reconnected fume hood sash sensors
- Eliminated alternating heating and cooling of discharge air
- Tuned PID loops to prevent hunting of control valves
- Calibrated temperature sensors
- Sealed leaking ductwork
- Eliminated irregular cycling of exhaust fans and chilled water pumps
- Fully opened throttling valves to enable VFDs to control chilled water flow
- Implemented differential pressure reset

About Enpowered

Enpowered Solutions is a leading consultative energy solutions company founded and comprised of expert energy engineers, commissioning agents, controls system designers, and project managers. We help our customers capture their performance advantage through a unique blend of controls innovation, commissioning, and energy engineering expertise.