



# Case Study

## Project Scope:

Retro-Commissioning Studies

## Facility Description:

- Location 1 - Representative Building A - Phase I & II
- Location 1 – Representative Building B - Phase I
- Location 1 – Representative Buildings C, D, and E - Phase I (Phase II scheduled)
- Location 2 – Representative Building A - Phase I

## Project Results:

### Location 1/ Bldg A

- 55+ energy opportunities uncovered to equal \$450K in annual savings
- 1.5 year payback

### Location 1/ Bldg B

- \$105 - \$130K in annual savings
- <2 year payback
- 590 tons annual CO<sub>2</sub> reduction, equivalent to planting 454 acres of trees or eliminating the use of 98 cars annually

### Location 1/ Bldgs C,D,E

- \$300 - \$400K in annual savings
- 1,945 tons annual CO<sub>2</sub> reduction, equivalent to planting 1,496 acres of trees or eliminating the use of 324 cars annually

### Location 2/ Bldg A

- \$205 - \$290K in annual savings
- 1,123 tons annual CO<sub>2</sub> reduction, equivalent to planting 864 acres of trees or eliminating the use of 187 cars annually
- Reduction of 1.8 million gallons of water/year

## Studies Conducted:

September 2006 - January 2008

## Pharmaceutical Research & Manufacturing Client

Northeastern United States

Dome-Tech, Inc. was retained to perform Retro-Commissioning (Retro-Cx) scoping studies at multiple facility buildings to identify savings opportunities through a thorough review of major energy consuming equipment.

More specifically, project goals were to:

- Evaluate the current HVAC operations
- Investigate building pressurization issues
- Assess the buildings' potential as full Retro-Cx projects

During the course of the scoping study, HVAC systems were inspected for each building to uncover issues in either operation or installation.

The Retro-Cx study for Location 1/ Bldg. A identified nearly \$250K in annual savings with a simple payback of less than two years. The study was then developed into a limited Pilot Project that ran concurrently with a Retro-Commissioning Phase II study. Early Pilot results uncovered \$4.4 K in annual savings, and if expanded to a larger section of the building, could produce \$200K - \$230K in additional savings, with a payback of roughly three years. Together, the Pilot and Phase II programs identified a combined annual savings of \$450K, with an associated simple payback of 1.5 years.

In addition, the scoping study performed at Location 1/Bldg. B identified more than \$100K in annual savings with a simple payback of less than two years. Studies performed at Location 1/Bldgs. C, D, and E revealed \$300 - \$400K in annual savings. Approximately \$205 - \$290K in annual savings was identified at Location 2/Bldg. A.

Currently, the buildings at Location 1/Bldgs. C, D, and E are continuing on with a Retro-Commissioning Phase II study.