

One Dearborn Plaza

Project Highlights and Results

- Project successfully:
 - Improved indoor air quality and comfort
 - Improved overall operation and maintenance due to controls upgrades
 - Addressed aging mechanical equipment
 - Lowered annual energy costs through reduced fan energy (conversion from constant volume to variable operation)

Project Background

Owner:	Buck Tamblin Property Management
Location:	Kankakee, IL
Team/Team Lead:	Don McLauchlan, Caitlin Levitsky
Elara Role:	ME Engineering Design
Type:	Energy Retrofit
Construction Cost:	\$350,000

Project Overview

Building Type:	Commercial Office
Building Attributes:	6 Stories, 65,900 SF
Initial Construction:	1969
MEPFPIT Systems:	Condensing Boiler Plant, VAV AHUs, Perimeter Baseboard, CHW

Innovation

- New high-efficiency condensing boiler plant
- Converted hot water system to variable flow
- Converted existing dual duct systems to variable volume with new calibrated pneumatic controls (reusing existing equipment)
 - Perimeter boxes operate as variable cold/variable hot; interior boxes operate as variable cold
- Replaced chilled water coil box, fan motors, sheeves and belts on AHUs and added VFDs
- Reduced fan energy (by converting to VAV)
- Significantly reduced fan power by shutting off fans when not needed and reducing the static pressure of the dual duct fan systems
- Innovative approach exemplified through reuse of parts from the existing system to make the conversion cost effective

FIRST PLACE

ASHRAE Excellence in Engineering Award
Chapter Level

