

Lake Park Plaza Condominiums

Project Highlights and Results

- Energy analysis identified opportunity to replace the building's original absorption cooling unit with new high-efficiency electric chillers
- Saved over \$175,000 (26% decrease) in utility costs in first year of operation of new cooling system

Project Background

Owner:	Lake Park Plaza Condominium Association
Location:	Chicago, IL
Team/Team Lead:	Steve Maze, Adam Sanders
Elara Role:	ME Engineer
Type:	Mechanical Systems Upgrade/Energy Retrofit
Construction Cost:	\$750,000

Project Overview

Building Type:	Residential, Condominiums
Building Attributes:	30 Stories; 464,000 SF
Initial Construction:	1969
MEFPFIT Systems:	Boiler Plant, Chiller Plant, DDC

Innovation

- Elara's initial energy analysis identified the opportunity to replace the building's original absorption chiller and associated cooling tower.
- Implemented recommendations included new high efficiency electric chillers, a new cooling tower with variable speed fans, new variable speed hot water pumps and a new automated control system.
- Eliminated the use of steam for space cooling.
- Eliminated the use of outdated CFC refrigerant.
- An energy analysis before and after project implementation identified the following savings:
 - Annual Gas Costs:
 - \$525,000 before chiller replacement
 - \$358,000 after chiller replacement
 - Annual Electricity Costs:
 - \$139,000 before chiller replacement
 - \$133,000 after chiller replacement
- Electric usage actually decreased despite replacing the natural gas cooling unit with new electric chillers due to increased equipment efficiencies and control optimization.

