

1660 North LaSalle Drive Condominiums – Boiler Plant Replacement and Chiller Redundancy Implementation

Project Highlights and Results

- Replaced existing space heating non-condensing hot water boilers and associated hot water pumps with a high-efficiency condensing hot water boiler plant and refurbished the existing building heating hot water heat exchangers
- Designed and installed additional high efficiency, variable speed, water-cooled chillers to provide system redundancy and improved efficiency
- System replacements and upgrades to provide an estimated \$46,500 per year utility cost savings
- Secured \$57,500 in utility incentive funding

Project Background

Owner:	1660 Condominium Association
Location:	Chicago, IL
Team/Team Lead:	Dustin Langille, Xavier Locke, Adam Sanders, Nathan Kinsey
Elara Role:	Design Engineer
Type:	Boiler Replacement and Chiller Installation
Construction Cost:	\$2,419,500

Project Overview

Building Type:	Residential, Condominiums (491 Units); Parking Garage
Building Attributes:	42 Stories
Initial Construction:	1972
MEPFPIT Systems:	Condensing Boiler Plant, Hot Water Pumps, Water Cooled Chillers, Refurbished Cooling Tower, Controls, Electrical Power Feeds Including Automatic Transfer Switch to Avoid a New Utility Service

Innovation

- Completed schematic design review that identified and evaluated alternatives for improvements of the building's existing boiler and chilled water plants.
- Designed replacement of existing hot water boilers with new high-efficiency condensing boilers, installed new VFDs on new hot water pumps, and installed a new tube bundle in one heat exchanger.
- Designed / Installed two additional water-cooled chillers in the boiler room, sized for partial load of the building, for system redundancy to address repair or maintenance disruptions of the building's existing single chiller. New chillers will lengthen the life span of the existing chiller to minimize long term capital expenses to the association.
- Design and installed new refrigerant monitoring, detection, and emergency exhaust system for new chillers.
- All new equipment was integrated into the existing building automation system.
- System replacements and upgrades to provide an estimated \$46,500 per year utility cost savings
- Secured \$57,500 in utility incentive funding

