# RETROFIT CHICAGO CASE STUDIES | 2023

# ROOKERV

## Impact at a Glance

- 20% energy reduction from baseline achieved in 2016
- Recognition in 2014 as Illinois' oldest **LEED Gold Certified** building and the oldest certified high-rise globally
- 32.1% reduction of carbon emissions in 2016 compared to 2010 (data via ENERGY STAR Portfolio Manager)

### **The Rookery** is the oldest standing skyscraper in Chicago. Throughout the building's history, The Rookery preserved its timeless architectural elements while incorporating modern building systems and technology. Within the first three years of the 1970's, The Rookery was added to the National Register of Historic Places, designated a Chicago Landmark, and became one of Chicago's first all-electric buildings.

The Rookery proved to be a true leader in the Retrofit Chicago program, securing a spot in the Leadership Circle by achieving a 24% energy reduction within three years of joining the challenge. In November, 2017, The Rookery was the host of the Retrofit Energy Challenge Awards Ceremony where exceptional buildings, managers, and engineers were honored for their contributions to a greener Chicago.

# **Building Stats**

- Year Built: 1888
- Neighborhood: The Loop
- Architect: Daniel Burnham and John Root
- Use: Office and Retail
- Square Footage: 333,621

# **Spotlight on Energy Efficiency Investments**

- Retrocommissioning
- Equipment replacement and calibration
- Building automation system
- Enthalpy calculations incorporated into BAS
- Energy audit to determine best energy conservation opportunities



The original light fixtures in The Rookery were built to accomodate gas or electric lights. At the time, neither were able to sufficiently light the space without the incorporation of natural lighting.

Prior to joining Retrofit Chicago in 2012, The Rookery took part in the ComEd Retrocommissioning program in 2011/2012 to find cost saving opportunities within operating changes. Energy reduction is an objective that the team is constantly working to achieve. The engineering staff were vigilant about demonstrating savings.

In 2013, The Rookery joined Retrofit Chicago to uncover and implement more energy saving measures with a goal of a 20% reduction in five years. Walkthroughs were conducted to identify opportunities with quick payback in energy savings. One of the additions that resulted in significant savings was improving the building automation system. Enthalpy calculations were integrated to save energy by using exterior humidity to absorb and remove more heat.

The Rookery's efforts have gained recognition through the years. In 2014, the Rookery achieved a LEED Gold Certification for operations and maintenance. Shawn Freeman, Chief Engineer at The Rookery, was also recognized for his leadership. In 2016, Retrofit Chicago recognized The Rookery for their successful reduction of energy use two years ahead of their target date.

#### About Retrofit Chicago

The Retrofit Chicago Energy Challenge encourages, promotes, and celebrates voluntary energy efficiency leadership. Together, participating building owners, facility managers, engineers, and policymakers are demonstrating that energy efficiency is a winning proposition for Chicago's real estate industry as well as the environment.





#### The Key to Success

for The Rookery

66 Having accountability allows us to achieve."

#### Shawn Freeman

Chief Engineer, The John Buck Company Recipient of the 2014 Retrofit Chicago Most Valuble Engineer



Steel frame skyscrapers were not common during the building's construction, so a hybrid structure of masonry walls and iron interior supports was used.

