

# ENGINEERED SOLUTIONS

## CASE STUDY

Modernization of Backup Power Systems  
for South Florida High-Rise Buildings



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# BACKGROUND & INITIAL PROBLEM

## CLIENT OVERVIEW

Our client, an installation representative for Kohler diesel generators, specializes in servicing backup power needs in South Florida. They cater to various customers, ensuring reliable power supply during outages, which is critical for high-rise residential buildings.

# BACKGROUND

One of their clients, a 30-story residential building, experienced a failure in the automatic transfer panel responsible for switching between line power and generator power. This issue prompted a site review, where we identified an obsolete GE PLC controlling the system in two buildings.

# INITIAL PROBLEM

The existing system's PLC was from the 1990s, posing a significant risk during power outages, especially during hurricanes. The client realized the necessity of a reliable, modern control system to avoid manual interventions and potential system failures.



# SOLUTION

Initially, we proposed a straightforward replacement of the old GE PLCs with new Emerson PLCs, providing a drop-in solution including programming. During the site inspection, we found a loose wire that temporarily resolved the issue, but it underscored the fragility of the outdated system.

# CLIENT DECISION

Understanding the risks associated with obsolete technology, the client opted for a comprehensive upgrade. They decided to replace the entire control panel setup, which had been in place for 30 years, to ensure long-term reliability and reduce manual interventions.

# PROJECT EXECUTION

## 01 SCOPE


Replacement of two generator transfer control panels, installation of new PLCs, field startups, and complete engineering services.

## 02 TIMELINE

The project was planned and executed efficiently to minimize downtime and disruptions for residents.

## 03 COST SAVINGS

The building owners benefit from significant cost savings of \$600,000+ over the lifecycle of the new PLCs.



# BENEFITS & CONCLUSION

**1**

Enhanced  
Reliability

**2**

Risk  
Mitigation

**3**

Improved  
Safety

**4**

Future-  
Proofing

# BENEFITS & OUTCOMES

## 01 ENHANCED RELIABILITY

The new panels are equipped with modern, currently available equipment, significantly reducing the risk of system failures.

## 02 RISK MITIGATION

The upgrade eliminated the need for manual interventions during power outages, enhancing safety and convenience for residents.

## 03 IMPROVED SAFETY

Reliable backup power ensures that critical systems like elevators and air conditioning remain operational during outages, crucial for high-rise buildings in Florida's climate.

## 04 FUTURE-PROOFING

By modernizing the control panels, the client reduced the likelihood of future failures and the associated maintenance costs.



## CONCLUSION

The successful modernization project not only upgraded the backup power system but also showcased the importance of investing in reliable, modern technology for critical infrastructure. The collaboration with the local contractor ensured that the client's needs were met efficiently, setting a new standard for backup power solutions in high-rise buildings.



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