

case study



Powering a Historic High-Rise: How IEA Delivered Reliable Standby Generation in a Challenging Urban Environment

Summary

When a client located in a vintage, multi-story office building in the heart of the financial district needed standby power generation, the space limitations and structural complexities seemed insurmountable. IEA Power engineered a custom rooftop generator solution that met code, preserved building integrity, and ensured reliable power for years to come.

The Challenge

Designing and installing standby generation in a building never intended to house such systems came with multiple technical and logistical obstacles:

- No available space on-site for a ground-level generator.
- Structural reinforcement was needed to support equipment weight on the roof.
- Fire-code-compliant fuel transfer system required between basement and roof.
- Complex electrical integration across multiple vintage load centers.
- Exhaust stack design had to prevent downwash and air intake contamination.
- Generator placement had to avoid diesel exhaust intrusion into the building's fresh air intakes.

The Solution

IEA Power delivered a turnkey solution centered around innovation and structural ingenuity:

- Installed a 725 kW diesel generator on the rooftop, mounted on a custom steel frame above reinforced structural supports.
- Integrated a 600-gallon rooftop sub-base fuel tank and two 300-gallon basement day tanks, with alleyway access for safe refueling.
- Designed a custom control system to manage diesel fuel transfer from basement tanks to the roof while adhering to local fire codes.
- Installed multiple automatic transfer switches to ensure reliable backup for segmented electrical loads throughout the vintage building.

Result & Impact

- Uninterrupted backup power for critical office systems in the event of utility failure.
- Preservation of building aesthetics and usability through rooftop installation.
- Safe and compliant fuel delivery system with minimal operational disruption.
- Long-term resilience in a compact and complex urban setting.

Why IEA Power?

IEA Power specializes in complex utility interconnections and high-reliability energy projects. Whether upgrading substations, integrating generation assets, or executing live power transitions, IEA delivers engineered solutions that minimize risk and maximize uptime.

Let's Power What's Next

Upgrading your energy infrastructure? Keep your operations running strong with IEA Power.