

## Iconic Department Store's Energy Study Enables \$528,000 of Annual Savings

*Bloomingdale's Inc. sought energy auditing and retro-commissioning services to increase facility performance and decrease operations and utility costs*



Commercial

### Property Profile

- Location: Midtown East, Manhattan
- Square Footage: 847,000
- Year Built: 1868
- Facility Type: Commercial Retail

### Services

- Energy Auditing
- Retro-commissioning

### Project Achievements

- Annual Cost Savings from Identified ECMs: \$447,000
- Annual Electricity Savings from Identified ECMs: 1,944,000 kWh, 642 kW, and 112 MMBTUs
- Simple Payback: 8.5 years
- Annual Cost Savings from Identified RCMs: \$81,000
- Annual Electricity Savings from Identified RCMs: 219,000 kWh and 1,200 MMBTUs
- Simple Payback: 2.1 years

### Project Highlight

Worked within strict schedule of high-end department store to identify energy saving measures that met the current facility requirements and decreased utility costs. All work was completed with minimum disruption of department store services.

An art-deco landmark since it opened in 1868, the Bloomingdale's Flagship Store in Midtown East, Manhattan is one of the city's earliest and most popular department stores. The 847,000 sqft facility hired EN-POWER GROUP to perform energy auditing and retro-commissioning to identify measures that would decrease its annual utility and operational costs.

EN-POWER GROUP performed a comprehensive, detailed energy audit of all facility equipment, which enabled Bloomingdale's to effectively strategize their short-term and long-term energy planning. In order to identify the most impactful, cost-effective measures, our engineers examined the facility's district steam plant, centrifugal electric chillers, cooling towers, distribution pumps, lighting systems, building envelope, and over seventy (70) air handling units (AHUs). Identified measures included installing a heat exchanger for free cooling, installing a heat recovery system, and upgrading the chilled water plant. Implementing these measures would lead to annual savings of \$447,000 on utility costs

via 1,943,000 kWh of electricity, 642 kW of demand savings, and 112 MMBTU of district steam.

In addition, project engineers conducted retro-commissioning, a type of in-depth testing, in order to optimize the performance of the current equipment for additional savings. This process included functional performance testing and setpoint and sensor calibration checks on all HVAC equipment. Once testing was complete, we identified improvement measures that included: reprogramming discharge air temperature setpoint resets, repairing air handling units' dampers and valves with associated actuators, and correcting a variety of control deficiencies on the facility's building management system (BMS). These measures were ultimately completed with the guidance of EN-POWER GROUP engineers and saved Bloomingdale's \$81,000 per year in utility and maintenance costs, for a simple payback of 2.1 years.