



Confidential Fortune 20 Company 2005 Data Center Upgrade



Project Business Objective

What was once state-of-the-art in 1992 served our client well for almost 15 years. However as critical load increased, design concepts evolved and dual corded equipment prevailed, it came time to prepare the data center for the next 15 years.

Project Mission

Install a 2N UPS system with dual bus power distribution to the raised floor and cut-over 1.8MW of critical load without incurring a single planned shutdown or unplanned outage of the critical computer equipment.

Project Summary

Almost 15 years after the first facility upgrade, FEA was commissioned as prime professional to perform the next generation upgrade. Leveraging the latest technologies and state-of-the-art design concepts, FEA lead the team providing complete architectural, structural, environmental, electrical and mechanical design services.

The unique challenge of this project was performing all upgrades in a live data center environment. To accomplish this, two of the three new UPS systems, including switchgear and batteries, were installed in a 10,000 square foot addition. The addition allowed for total fire separation between systems. Meanwhile, new power distribution equipment was installed inside the data center.

Once all new equipment was installed and commissioned, FEA lead the integration testing effort to validate the design, installation and equipment performance. With testing complete, FEA planned and executed a three weekend cut-over that transferred 1.8MW UPS load from the old UPS systems to the new. The cut-over involved 650 breaker operations and did not interrupt UPS power to the computer equipment.

With the critical load transferred to the new UPS systems the old UPS was removed and replaced with the last of three UPS systems. All three UPS systems, configured in a 2N configuration are expandable to accommodate load growth.

Deliverables

- // 2N 4,500kW UPS System, upgradeable to 5,400kW
- // A and B bus power distribution to dual power corded devices
- // Chilled water distribution upgrades to support increase raised floor power densities
- // 10,000 square foot building addition