



KROESCHELL PROJECT CASE STUDY:

Major Mechanical Upgrades at Motorola Corporate Tower

THE CHALLENGE:

Motorola was planning to consolidate their campus by realigning building use and shifting business functions from nine buildings to two. They moved their factories offsite, closed the museum and training center and relocated their corporate employees. The two remaining onsite buildings included the original Corporate Tower and the International Data Center. Motorola relocated the majority of the campus to the Corporate Tower, prompting the remodel of all 12 floors to support a new technology center, training facility, labs, computer rooms and server rooms. The consolidation required increased cooling capacity to accommodate additional employees and increased heat loads, services and processes.

THE SOLUTION:

Over the course of four years, Kroeschell completed the three-phase, \$10,000,000 corporate consolidation project. Phase one involved retrofitting the 3rd and 10th floors of the tower. The team upgraded the tower's 30+ year-old HVAC equipment and modernized the BAS, installing Alerton controls. Phase two included upgrading the 7th and 11th floors in a similar fashion.

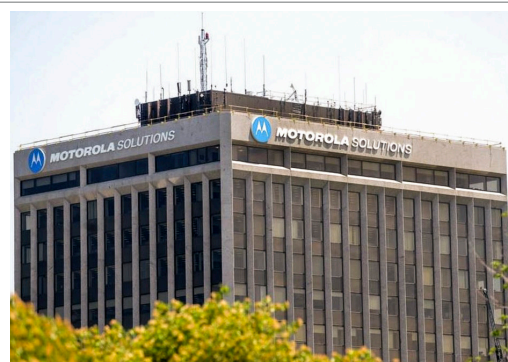
Phase three, the largest of the phases, included retrofitting most of the remaining floors and common areas such as the lobby, cafeteria, dining room and Homeland Security sector, in under eight months.

The overall installation included:

- Over 150 CRAC units totaling over 1200-tons of cooling.
- Chilled water equipment, piping and ventilation revisions.
- Ductwork and terminal devices to serve new areas and provide an update to existing.
- Variable refrigerant systems and all associated piping including emergency ventilation.
- Systems such as compressed air, deionized water, nitrogen services, exhaust, process cooling.
- Converting the existing perimeter constant volume systems to VAV systems on each floor.
- Perimeter baseboard hot-water heating (to replace existing electric heat).
- Homeland Security call center installation with emergency backup HVAC.

THE RESULTS:

Kroeschell used its design expertise to modernize the facility without the need to replace all of the equipment. We accomplished the project while the Corporate Tower remained substantially occupied and fully operational. Motorola received LEED silver status for each upgraded floor in the Corporate Tower. They have also applied for and received energy saving rebates on lighting, temperature controls and the BAS system. Additionally, they intend to apply for an ASHRAE Energy Award.



PROJECT OVERVIEW:

Location: Schaumburg, Illinois

Project Scope:

- Upgraded cooling and modernized BAS system for 12 floor corporate center.
- Saved Motorola 100KW hours per floor in electric heat.

Customer Profile:

Motorola Solutions, Inc. is an American data communications and telecommunications equipment provider. The company is headquartered in Chicago, Illinois and produces and sells communications products and services to public safety and government agencies as well as private entities.

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