Baruch College: Commissioning For A Better Building
Lower Manhattan

Background
The Baruch College Campus building occupies one full block in lower Manhattan. The 14 floors located above ground incorporate traditional academic spaces like lecture halls, classrooms and offices. The three floors below ground contain an athletic center, a swimming pool, and performance center. The goal of Commissioning was to ensure adequate system performance and provide thermal comfort to occupants, resulting in satisfaction with the space. Secondary goals were to produce energy savings and improve indoor environmental quality.

Commissioning Process:
Commissioning was planned and budgeted during the design phase, and requirements were included in bid documents. Systems commissioned included heating, ventilation and air conditioning, energy management control systems, plumbing and electrical systems, and fire/life safety systems. Commissioned equipment included the variable frequency drives, economizers, air handlers, and the emergency generator systems. Commissioning meetings were held regularly and participants were encouraged to actively participate. The Commissioning process helped facilitate communication among the control contractor, mechanical contractor, owner, and designer, helping minimize system shutdowns, additional construction costs, and control sequence complexity.

Findings:
Some of the issues identified by the Commissioning process included:

- Automatic CO₂ control not established
- Missing balancing valves on hot water piping
- Uncoordinated cooling plant control strategy
- Inappropriately scaled velocity pressure transmitters impacting fan tracking
- Duct smoke detectors not installed on supply and return valves
- Missing thermostats and/or pressure gauges on hot and chilled water pipes
- Air-handling unit control systems not sequencing the chilled water valves and outside air dampers during economizer mode
- Impediments to the emergency generator operating system

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