

A Simple Solution For Delta T Trouble

Turning Penalties into Profits with Precision Control

districtCOOLING IDEA | November 2016



FLOW CONTROL
INDUSTRIES, INC.



40% of building energy is used by comfort systems.

\$1 out of every \$3 spent is wasted.

A tall, modern skyscraper with a dark glass facade and vertical white accents. The building is labeled 'Atlantic Station' in a white circle on the left and 'BB&T' at the top. The address '271' is visible at the base. Other modern buildings are visible in the background under a clear blue sky.

*Atlantic
Station*

Location

Atlanta, Georgia

Industry

Mixed-use
development

Energy Source

District Cooling

Buildings

CBRE:

90.5k m² [480k ft²]

Atlantic Station:

278.7k m² [3M ft²]

ATLANTIC STATION - HOW WE STARTED

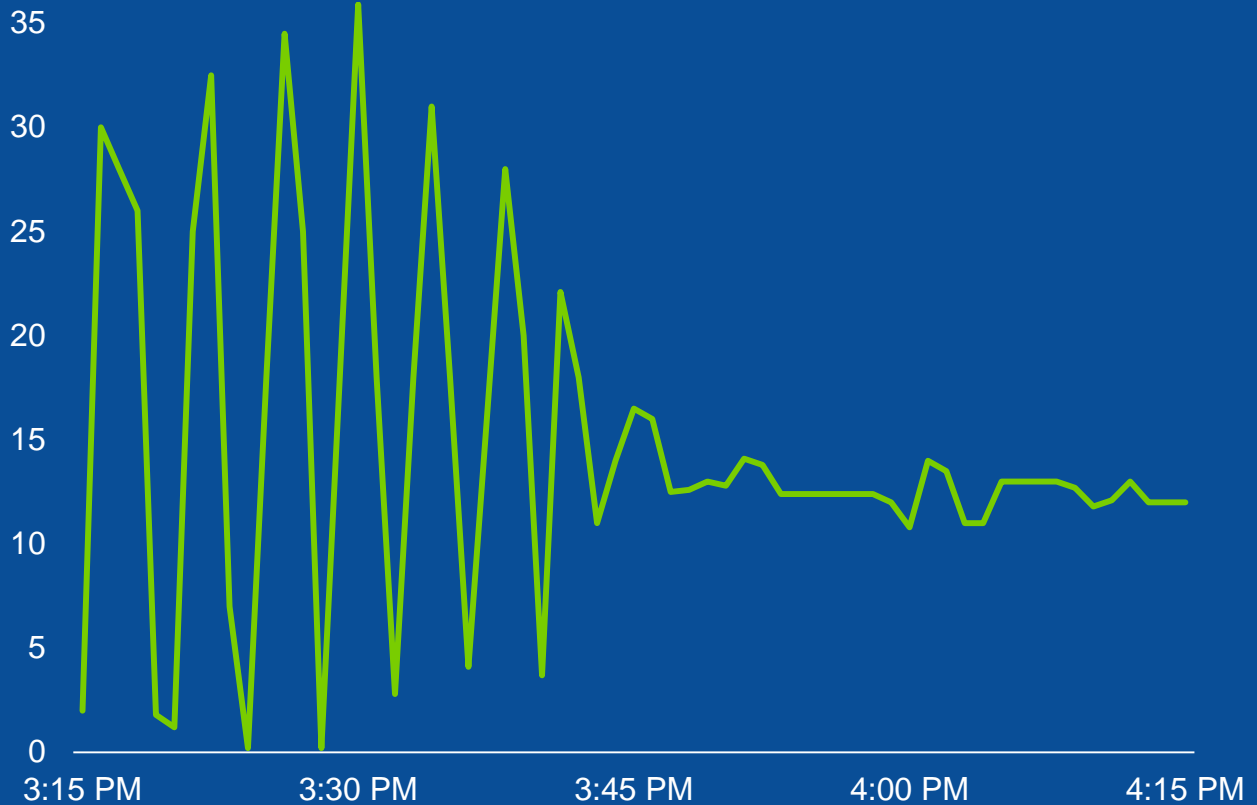
- ❑ Building was designed for peak efficiency and only 5 years old
- ❑ High electricity consumption and inflated peak demand
- ❑ Failure to manage CHW through wide range of cooling loads
- ❑ Poor ΔT performance resulting in monthly penalties
- ❑ Increasing utility costs raising occupancy issues
- ❑ Inflated cost of ownership
- ❑ Tenant comfort being sacrificed

WHAT WE DID

- ❑ Replaced each AHU CHW control valve with precision control valves
- ❑ Integrated each new valve into existing Building Automation System
- ❑ Modified building pump control strategy
- ❑ Replaced fan coil unit control valves
- ❑ Project completed over two weekends to minimize system downtime
- ❑ Minimally invasive retrofit

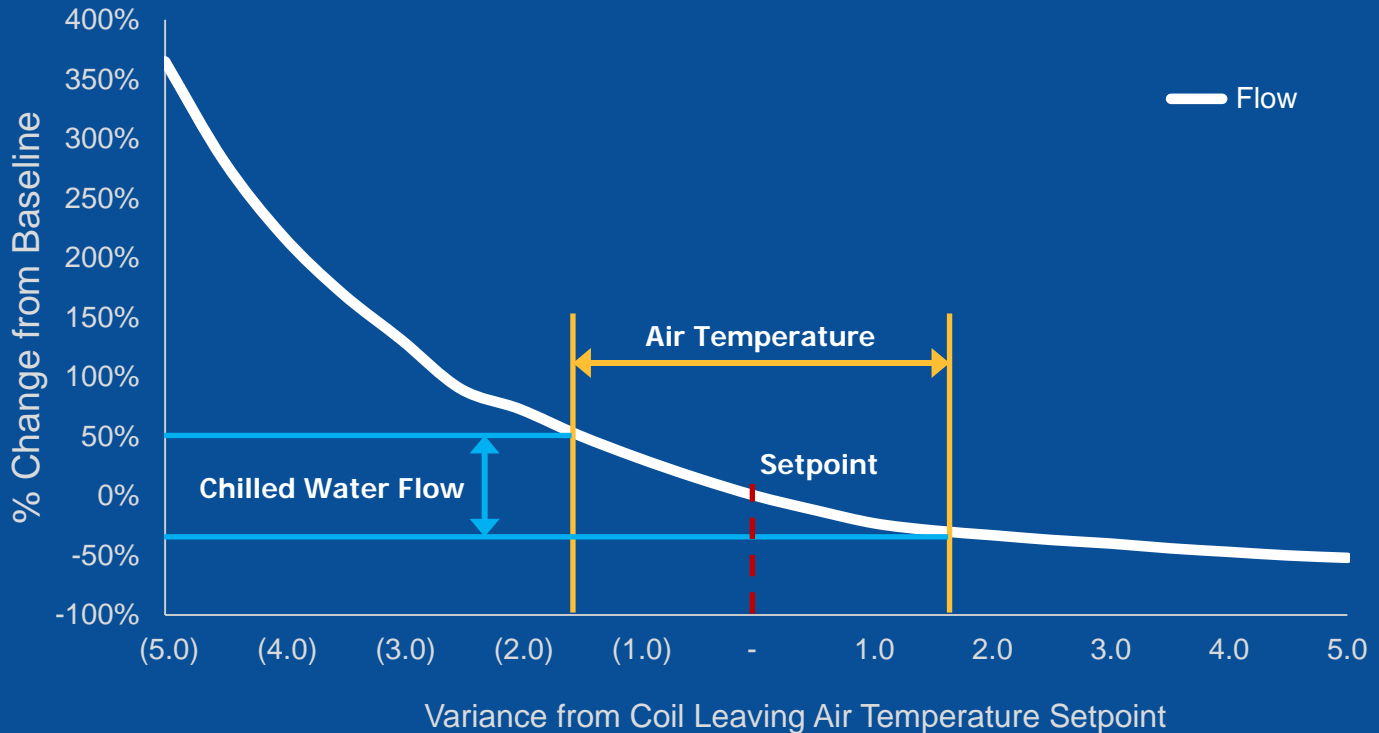
PRECISION CONTROL

WITH STABILITY EVERYTHING SETTLES DOWN



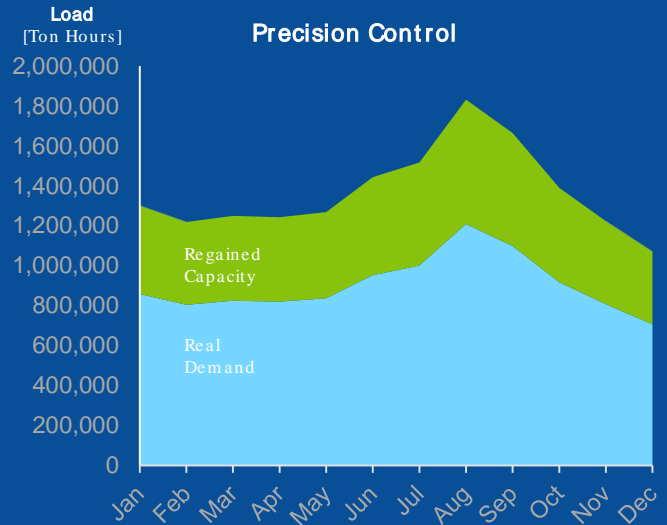
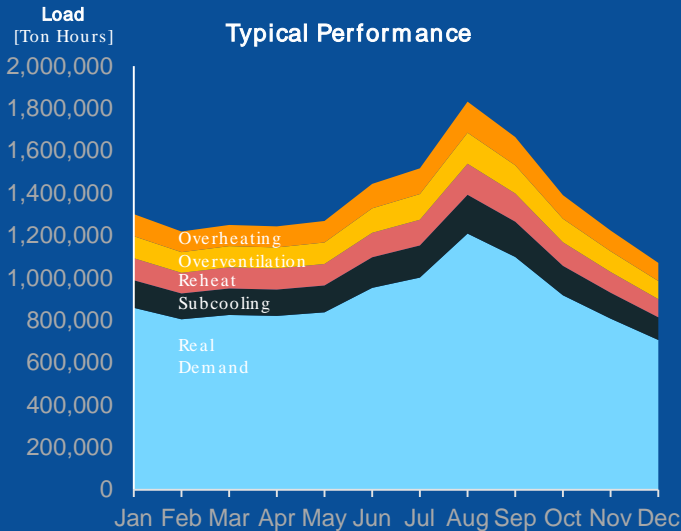
WHY STABILITY IS CRITICAL

COIL DEMAND DRIVES SYSTEM ENERGY

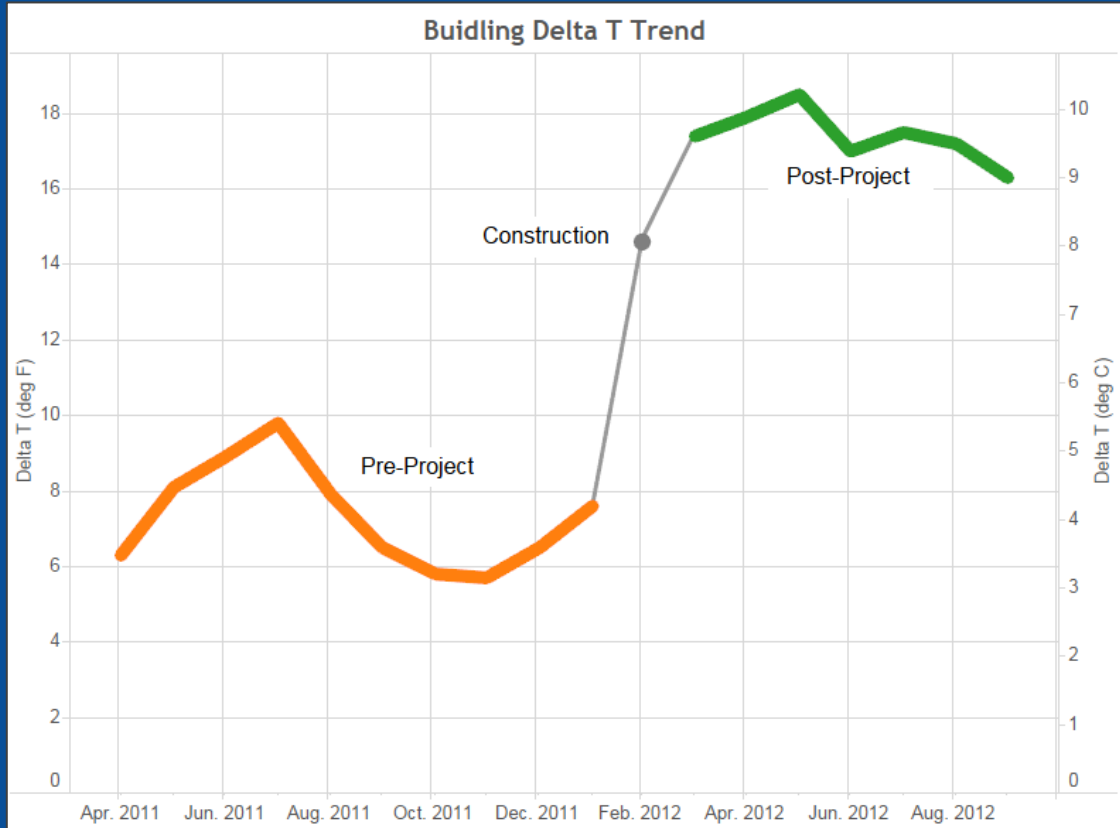


MAXIMIZE COOLING CAPACITY

BY ELIMINATING SUBCOOLING, REHEAT, OVERHEATING, & OVERVENTILATION



PERFORMANCE IMPACT



RESULTS @ ATLANTIC STATION

- ΔT performance increased nearly 300% , from 3.3° to 10°C [6-18°F]
- 17% decrease in total building electricity consumption
- CBRE saved \$150,000 USD in 3 months
- Simple project payback in only 6 months
- District energy recovered 3,516 kW [1,000 tons] capacity
- No increase in chilled water usage despite occupancy nearly doubling
- Building awarded LEED-EB Gold certification and energy score rose 10%

“Within the first three summer months, we saved \$150,000 USD.”

- *MIKE GIERSCHNER*
Chief Building Engineer
Atlantic Station

THANK YOU.

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