

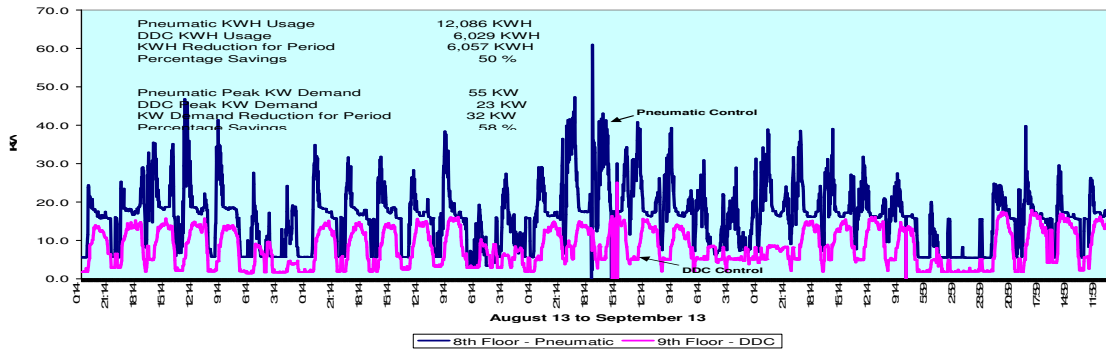


DDC vs PNEUMATIC VAV CONTROL

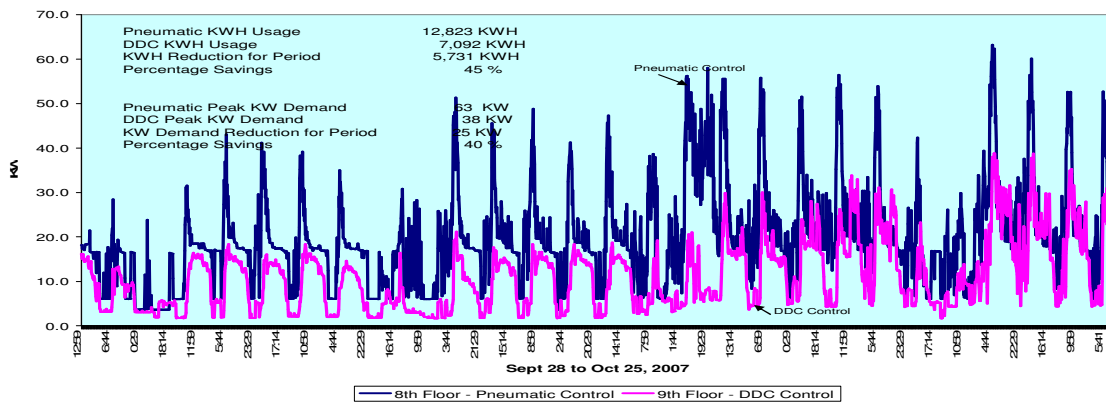
Premise – 17 Story Building

- Central HVAC System controlled by older DDC system
- All floor air distribution controlled pneumatically
- 9th Floor VAV boxes converted to standalone DDC control independent of the building's existing DDC system
- Both floors have identical footprints, identical air distribution elements, identical occupancies and identical temperature requirement
- Both floors have had the HVAC electrical distribution panel metered since mid July, with 15 minute demand and usage data.

Heating disabled for higher temperatures



Heating enabled for lower temperatures



- ### **Conclusions** – Savings are achievable regardless of what is going on with the central HVAC and Building Management system
- Savings can be as much in the summer as in the winter, maybe greater
 - Savings are not achieved simply through DDC control but must be programmed correctly for comfort and savings not just comfort