

AUGUST 2018 | GSA'S PROVING GROUND

EMERGING BUILDING TECHNOLOGIES



4 MILLION SQ. FT. RETROFIT AT JAVITS & WEISS FEDERAL BUILDINGS IN NYC

Focus on Wireless Pneumatic Thermostats

DIRECT DIGITAL FUNCTIONALITY AT A FRACTION OF THE COST

GSA's Region 2 manages more than 70 federally-owned facilities, many of which still rely on conventional pneumatic control systems to maintain occupant comfort. The problem is that conventional pneumatic control systems cannot deliver even the most basic cost-saving control strategies, such as turning down the heat at night or when the building is unoccupied.

A 2016 Energy Savings Performance Contract (ESPC) for 4 million square feet of office space at the Jacob K. Javits and Ted Weiss federal buildings in New York City found that wireless pneumatic thermostats (WPT), assessed by GSA's Proving Ground (GPG) in 2015, provide the most cost-effective way of increasing the efficiency of legacy pneumatic systems. The ESPC contract estimates that the technology will reduce whole-building energy use by 2%. And just as important, it can help identify HVAC mechanical problems. Javits's facility manager reported that the newly installed WPT identified air leaks in the system that would otherwise have gone undetected. And at the Weiss building, WPT has helped operations & maintenance personnel respond to tenant complaints by identifying mechanical problems, such as malfunctioning VAV boxes. This pneumatic fault detection is unique to the WPT technology. An upcoming installation at the Lanham Federal Building in Fort Worth, Texas is exploring whether WPT fault detection can be integrated into GSALink. **GPG's assessment recommends considering wireless pneumatic thermostats for all facilities with conventional pneumatic controls.**

Wireless pneumatic thermostats offer direct digital control (DDC) functionality at 20% of the cost of a DDC retrofit. Installation takes 20 to 30 minutes per thermostat, with no need to open up the walls.

"We're happy to have found a GSA cybersecurity-approved wireless technology that provides access to energy-saving control strategies that weren't previously available. An ESPC ENABLE contract streamlined our procurement process so WPT can be up and running in less than six months."

– Stuart Lamkin, Project Manager,
Lanham Federal Building, Fort
Worth, Texas

WPT, GSA Office Building, Washington DC

- Modelling found energy savings across climate zones and office sizes
- 2–6 year payback with unoccupied/occupied control strategy
- Suited to all facilities with conventional pneumatic controls

RESOURCES

Learn More About Wireless Pneumatic Thermostats

[GPG Findings 020 & Report by Oak Ridge National Laboratory »](#)

[Webinar Recording, 04.27.17 »](#)

[Webinar Presentation Slides »](#)

[Map of GSA Deployment of Wireless Pneumatic Thermostats »](#)

For more information about GSA's Proving Ground program or tested technologies: www.gsa.gov/gpg or contact Michael Hobson michael.hobson@gsa.gov



Emerging Building Technologies' two programs, GSA Proving Ground (GPG) and Pilot to Portfolio (P2P), enable GSA to make sound investment decisions in next-generation building technologies based on their real-world performance. www.gsa.gov/gpg