Aircuity case study

PNC Financial Services Group

Aircuity Delivers Reliable Humidity Sensing, DCV and First Cost Savings to the World's Greenest Office Tower

PNC Financial Services Group (PNC), one of the largest diversified financial services institutions in the United States, sought to combine several campuses in the Pittsburgh area into one brand new corporate headquarters located in the community of high performance buildings in the Pittsburgh 2030 District. As one of the original sustainability leaders in the financial services and banking industry, PNC became the first major bank to apply green building standards to all newly constructed or renovated retail branch offices in 2002 and today the company has more than 250 LEED® certified buildings—including more newly constructed LEED certified buildings than any company worldwide. Continuing to lead the way in sustainability, PNC worked with Gensler to design a dynamic and highly efficient new headquarters dubbed the **"Greenest Office Tower in the World"**. With numerous energy efficiency measures included in the design, it was important that they all worked together and interacted properly to save energy.

WORKING TOGETHER

The Tower at PNC Plaza is a 33-story, 800,000 square foot building, and was designed to consume 50% less energy and 77% less water than a typical office building as a result of many cutting edge energy efficiency features. Among the efficiency measures was a double glass facade and a solar chimney—which enhances energy efficiency by reducing cooling costs and allowing natural airflow to the building. Engineers also included efficient hydronic cooling (chilled beams) throughout the building. Engineers knew that obtaining accurate humidity measurements was critical and also presented a challenge based on the complex interaction of operable windows, chilled beams, and the solar chimney, which draws air from the perimeter and along the floor of the building.

Aircuity's channel partner, Automated Logic, helped BuroHappold Engineering compare two solutions. One option was to install discrete humidity sensors throughout the facility and the other to install Aircuity's IEQ monitoring system. The engineers concluded that Aircuity would continually provide

accurate and reliable readings for the life of the building based on system architecture and bi-annual sensor exchanges through Aircuity Assurance Services. Engineers also wanted to install reliable demand control ventilation (DCV) in The Tower so choosing Aircuity to monitor and control the chilled beams was even more of an obvious choice.

"Aircuity was chosen because it is a proven system. Its demand based control and humidity readings are accurate and reliable, which is critical to the building's proper operation."

Jeremy Snyder, Associate Principle
BuroHappold Engineering

RESULTS

Installing Aircuity in the The Tower at PNC Plaza provided accurate DCV, enthalpy economizing and the most efficient and effective humidity sensing. Aircuity eliminated the need for separate humidity sensors, saving approximately $250,000 in first costs and even more in maintenance and replacement costs to keep the humidity sensors working year after year.

The Tower's design made it a beacon of sustainability in the Pittsburgh 2030 District. Optimizing the ventilation and helping the building's energy conservation measures to interact properly produced energy savings that are contributing towards the district's goals of reaching a 50% reduction in energy use, water use, and transportation emissions (for existing buildings) and carbon neutrality (for new construction) by the year 2030.

The **"Greenest Office Tower in the World"** is now complete and its 2,200 employees have begun moving in. The Tower has achieved LEED Platinum certification and exceeded the points required for qualification. Aircuity proved to be an integral part of the robust building control system and has delivered benefits beyond just substantial energy savings.

ABOUT PNC FINANCIAL SERVICES GROUP

PNC Bank, National Association, is a member of The PNC Financial Services Group, Inc. PNC is one of the largest diversified financial services institutions in the United States, organized around its customers and communities for strong relationships and local delivery of retail and business banking; residential mortgage banking; specialized services for corporations and government entities, including corporate banking, real estate finance and asset-based lending; wealth management and asset management. For information about PNC, visit www.pnc.com.

ABOUT AIRCUITY

Aircuity creates measurably better environments while taking a bite out of energy goals. The company's smart automated airside solutions optimize air change rates based on comprehensive indoor environmental data. As a result, commercial, institutional and lab building owners can lower operating costs, improve safety and cut energy use by up to 60%. Founded in 2000 and headquartered in Newton, MA, Aircuity's solutions have benefited organizations such as the University of Pennsylvania, Eli Lilly, Masdar City, the Bank of America Tower and the University of California-Irvine. For additional information on the company and its solutions, please visit: http://www.aircuity.com.

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