

MEASURED SITE ENERGY USE

Annual Energy Consumption

34.6 kBtu/sf-year

Annual Renewable Energy

2.1 kBtu/sf-year

Net Annual Energy Consumption

32.1 kBtu/sf-year



Project Description

The building that serves as the ASHRAE headquarters in Atlanta was built in 1965 and dedicated to Employers Mutual of Wausau, an insurance company, on Feb. 23, 1966. The building was known as the Wausau Building until 1981, when ASHRAE purchased the building and moved its headquarters from New York City to Atlanta. The headquarters building was extensively renovated in 1981 and dedicated to ASHRAE on Oct. 6, 1981. Another major renovation of the interior, mechanical, and fenestration systems took place in 1991-1992. Smaller changes in the 1990s include reconfiguration of interior space on both floors for additional office space.

The total renovation of the 30,000-square-foot, two-story building began in October 2007 and was completed in June 2008 at a cost of \$7.65 million. The renewal was funded through donations of more than \$1.65 million in equipment, services, and furnishings from more than 20 companies and individuals and the ASHRAE Foundation.

ASHRAE set four goals in choosing to renovate: provide a healthy and productive environment for staff; provide a learning center; showcase ASHRAE's technology by creating a living lab; and demonstrate the Society's commitment to sustainability.

The building was designed as a "Living Lab" and demonstration model for ASHRAE's membership in advancing the arts and sciences of HVAC&R. The building is monitored and metered to capture building performance data, much of which is being made available online to members and the industry in stages. Once the living lab is fully functional, it will serve as a laboratory without walls to extend the Society's knowledge and information worldwide.

Deep Energy Savings Strategies

ASHRAE's project requirements included following the guidelines in the Advanced Energy Design Guide for Small Office Buildings; providing 30 percent higher ventilation rates than required by ASHRAE Standard 62.1-2004, Ventilation and Indoor Air Quality; reducing energy use by 30 percent as compared to ASHRAE/IES Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential; ASHRAE Guideline 0, The Commissioning Process; provide renewable energy through solar photo-voltaic to meet 8 percent of the annual peak electrical demand of the building; and providing building performance and system data that will interface through ASHRAE.org.

ASHRAE's goal to provide a healthy and productive workspace for staff was achieved through a variety of measures. Daylighting, which has been shown to increase both productivity and health, was maximized by minimizing perimeter offices and using modular furniture. A comfortable thermal environment that supports the productivity and well-being of all building occupants is provided through adherence to the requirements of ASHRAE Standard 55, Thermal Environmental Conditions for Human Occupancy. ASHRAE is utilizing an extensive permanent air quality monitoring system to help sustain occupant comfort and well-being in the renovated building.

The building received an A- rating as designed in a new building energy labeling program being launched by ASHRAE. The Building Energy Quotient program, which is known as Building EQ, will include both asset and operational ratings for all building types, except residential. The building's current Energy Star rating is a 97. This rating score has consistently climbed from below 70 at initial occupancy post-renovation to its current value thanks to on-going commissioning efforts.

The renovation also earned LEED Platinum Certification in the New Construction 2.2 rating system from the U.S. Green Building Council. It is one of only six buildings in the state of Georgia to receive a LEED Platinum rating, the highest certification the program offers.



Size:
34,721 GSF

Completion:
June 2008

Lessons Learned:

1. Lighting fixtures used for perimeter day-lighting should be equipped with a dimmable ballast as opposed to standard on/off ballast.
2. Installed wiring used for sub-metering should be commissioned to make sure sub-metered value measured accurately reflects all components that make-up the sub-metered equipment group.
3. Condensate water from dedicated outside air supply system (DOAS) should be harvested and reused via a cistern to water building green roof in peak summer months.

Team

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