

Boeing – Bay Area Boulevard Building Houston, Texas



Boeing's Bay Area Boulevard building sits in a quiet, natural setting at the corner of Pasadena and Houston, Texas. The 399,000 square foot building is tucked away amongst the natural wildlife environment at the border of metropolitan Houston and the wetlands of the Texas Gulf Coast. As visitors enter the two-story, natural lit, open lobby, they enjoy viewing large models of the International Space Station (ISS) and Space Shuttle. The models are a tribute to the over 1,500 employees working in the building supporting NASA's ISS and Space Shuttle programs as well as other projects related to exploring the unknowns of space.

Originally built in 1985 for IBM, it is a beautiful six story granite and glass building with a three story parking garage. Shortly after its purchase by Boeing in 2005, planning began to provide a more comfortable work environment for its occupants and to minimize the buildings energy consumption. The improvements to the building were required to not only reduce its energy consumption but also maintain or improve the indoor environment.

To earn the Energy Star, in 2006 the building underwent a total control retrofit from pneumatic controls with BAS overlay to a web based direct digital building automation system (BAS) for control of the buildings HVAC and lighting. The original outside air and exhaust systems were replaced with custom built energy recovery units that utilize energy wheels and incorporate demand controlled ventilation routines through the BAS. The BAS also incorporates a continuous Environmental Index (EI) grading of how well the space temperatures are being maintained as compared to their set points along with the CO₂ levels and air quality within the facility. The BAB building was one of the first facilities in the world to incorporate the EI grading system and when energy conservation measures are incorporated, the EI score along with the energy reductions are measured to make sure energy is not reduced at the expense of occupant comfort.

The HVAC system tunes itself to the current building load by utilizing such routines as VAVAHU static pressure reset based on VAV box damper position, chilled water differential pressure reset based on

chilled water valve position, cold deck reset based on the cooling required by the spaces, demand controlled ventilation, and a central plant low load control that utilizes the chilled water piping within the building as a thermal storage tank.

The building lighting fixtures have been upgraded with high-efficiency lamps and ballasts. The interior lights are controlled through the BAS system based on occupancy schedule and a telephone override system for after hour's operation. The exterior lights are controlled based on sunrise-sunset calculations with boundary schedules to minimize their use.

In 2007 the improvements to the building reduced its energy consumption by more the 2 million kWh as compared to 2006. After tuning the systems and continuing to make improvements during 2008 the buildings energy consumption has been reduced by more than three million seven hundred thousand kWh in 2009 as compared to the same period in 2006 while maintaining an EI score in the high nineties. The buildings rating in the Energy Star Portfolio Manager is an impressive 82 in 2009 and received Energy Star certification in 2008. The building earned Gold certification in the U.S. Green Building Councils' LEED EBO&M and certification in the International Organization for Standards (ISO) 14001 environmental management standard.

Boeing is continuing to make improvements to their buildings and is committed to reducing their carbon foot print and energy consumption while maintaining or improving occupant comfort.

Removing this sentence since this is not for Energy Star website unless you want it in - Boeing is proud to participate in the Energy Star program and have the BAB building earn the Energy Star.