

# WASHINGTON HEADQUARTERS SERVICES

Alexandria, Virginia



Washington Headquarters Services (BRAC 133) achieved a 46 percent energy reduction through the use of energy efficient design strategies. The strategies implemented were efficient chillers, reduced lighting and a high-performance envelope. These efforts allowed the opportunity to meet the requirements for Design to Earn Energy Star certification.

The highly efficient chilled water system incorporates desiccant wheels that will recycle latent energy. Other measures such as dedicated outdoor air and demand-controlled ventilation assist with energy reduction of the mechanical system.

Lighting is one of the largest energy consumers in a building. Lighting energy was reduced 30 percent by reducing lighting power densities and introducing natural daylight. The lighting power density was reduced by the use of light-emitting diode (LED) lighting fixtures throughout the facility which supplies all of its general office lightings needs. Task lighting at work stations was included, which helped in reduce the

lighting demand. Occupancy sensors that turn off and on lighting automatically is part of the design and will help reduce HVAC and lighting energy demands.

Not only was the mechanical and electrical systems designed to reduce energy, but the envelope was designed to create a facility that would require less energy consumption. This was done by using thicker exterior insulation and low-e, double-glazed windows to help reduce heat gain in the summer and heat loss in the winter months. Green roofs were utilized on some roofs to help reduce radiant heat and the heat island effect.

The final strategy in reducing not only energy use, but its carbon footprint, was achieved by purchasing 54 million kilowatt hours of renewable energy. This reduced the fossil fuel consumption by 40 percent for the next four years—for a reduction of 60.5 million pounds of CO<sub>2</sub> emissions.

- Building space type: Office
- Total square footage: 1,653,586 sq/ft
- Energy Use Intensity (EUI): 98 kBtu/sf/yr
- Percent CO<sub>2</sub> reduction: 46%
- ENERGY STAR design rating: 93

## ANNUAL SAVINGS STATISTICS

(COMPARED TO AN AVERAGE BUILDING EPA RATING OF 50)

- Energy savings: 138,482,395 kBtu/yr
- CO<sub>2</sub> savings: 18,037 Metric Tons CO<sub>2</sub>/yr