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National Geographic Society goes green

Introduction

The National Geographic Society is one of the world's largest not-for-profit educational and scientific organizations. Its headquarters in Washington, D.C. is comprised of four interconnected buildings, ranging in age from 20 to 100 years. The building achieved LEED-Existing Building Silver Award status for calendar year 2004, making it the first project to be certified under the US Green Building Council's EB Rating Program. This demonstrated LEED-EB could be successfully applied to older buildings.

Challenge

In order to achieve the distinction of Silver status, upgrades had to be completed throughout the facility's four buildings, including to the buildings' heating and cooling systems, air filtration systems, interior lighting systems and building operating practices. These upgrades increased the market value of the property by an incredible \$4 for every \$1 invested. After attaining this prestigious award, the management team set their sites on going even "greener" and obtaining LEED Gold status.

Solution

"We have always been proactive in our air filtration program here at the Society's Headquarters Facility," said Richard Neal, Chief Engineer for National Geographic Society. "As technology has advanced to improve the materials and efficiencies of filter media, we have routinely upgraded our program to endure the best possible indoor environmental quality for our tenants. When I was introduced to the StrionAir™ System, I was certainly interested."

The Society installed a StrionAir air filtration system. It is the only air filtration system that captures and kills pathogens, improving the health and safety of the environment. It provides a unique combination of high efficiency air filtration and low energy consumption resulting in an effective and economical indoor air quality solution. The StrionAir System also has the advantage of being able to fit into almost any new or existing building.

The advanced age of the buildings provided a unique challenge. The StrionAir System offers such little airflow resistance that it was not necessary to upgrade the air handler's motors or make any other system modifications, making it the perfect choice for this project.

Result

After the installation of the StrionAir System, there was a dramatic increase in fan performance. Pre-StrionAir installation records indicated a maximum of 68,000 CFM. Post-StrionAir, installation recorded a maximum of 81,000 CFM. This represents a dramatic increase of 19% in air volume delivery while still achieving energy reduction goals and dramatically improved filtration efficiency.

After the StrionAir System was installed, there was a 75% reduction in energy consumption system-wide.

The StrionAir System provided the Society with additional LEED points in the areas of indoor air quality improvement, air filtration, and reductions in energy and consumption.

Result, continued

Prior to the StrionAir installation, the HVAC systems had to be started at 10:00 pm Sunday and run at 100% capacity until 6:00 am Monday morning to achieve optimum comfort and conditioning objectives. After the StrionAir System was installed, these same objectives were achieved in only two hours of run time at 100% capacity. This represents a 75% reduction in energy consumption system-wide. The StrionAir System replaced the existing mechanical filtration consisting of 40% pre-filters and 90% bag filters.

Today's powerful green building movement has a strong emphasis on energy efficiency and indoor environmental quality. The StrionAir state-of-the-art air purification solution aligns perfectly with these objectives. A StrionAir System provided the Society with additional LEED points in the areas of indoor air quality (IAQ) improvement, air filtration, and reductions in energy and consumption.

"At this time, approximately 80% of occupied spaces are protected with the StrionAir System and over the next few years, I plan on 100% coverage, stated Neal. "For me, this is the right technology at the right time."



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