Greenlawn, New York – BAE Systems, Inc., is a global defense and security company that develops solutions for air, land, and naval forces, including the design, development, and manufacture of electronic systems with military and civilian applications. The company’s U.S. operations are headquartered in Arlington, Virginia, with operations in 38 other states.

In the fall of 2010, BAE Systems realized the need for infrastructure and energy efficiency improvements at its Greenlawn, New York facility. These projects needed to be completed without diverting funds from the company’s capital budget. Siemens Industry, Inc., partnered with BAE Systems to implement the necessary energy efficiency and infrastructure improvements, as well as to secure funding for the project through the Conserv program.

**Objectives**

In the Greenlawn physical plant, some of the mechanical and HVAC equipment dated back to the 1960s, and BAE Systems recognized the need for upgrading this equipment to be more energy-efficient and reliable. BAE Systems had a variety of business goals for its energy efficiency and infrastructure improvement project for Greenlawn’s 250,000-square-foot facility, including:

- Implement energy efficiency and CO₂ emissions improvements
- Maintain facility’s physical plant at required and desired level through infrastructure improvements
- Reduce operating costs associated with maintaining and servicing aging infrastructure
- Make above changes without spending funds from the company’s capital budget
- Complete project on an aggressive timeline to protect business continuity

By making the desired and necessary energy efficiency and infrastructure improvements without diverting funds from the company’s capital budget, BAE Systems would be able to use those funds for more strategic investments that will lead to top-line growth for the company.
Solutions

To achieve BAE Systems objectives for the energy efficiency and infrastructure improvement project, Siemens designed and implemented the following solutions on a five-month construction schedule:

• Upgraded existing, aging central boiler and chiller plant, including the use of magnetic bearing chiller technology, one of the most efficient chiller technologies available on the market today
• Installation of ultraviolet (UV) lighting systems on all air handlers to improve indoor air quality
• Installation of variable frequency drives (VFDs) on all air handlers and return vents, as well as chilled and condenser water pumps
• Upgraded existing building management system (BMS) on air handlers in the mechanical room
• Installation of new high efficiency domestic hot water heating system, including three modular hot water boilers to replace the existing fire tube steam boiler
• Project funding through Siemens Conserv program

Results

With the help of the Siemens Conserv program, BAE Systems implemented energy efficiency and infrastructure improvements with the following results for the Greenlawn facility:

• Reduced operating costs associated with maintaining and repairing equipment, including a 40-year-old boiler and chiller plant
• Reduced carbon emissions of up to 1,814,000 pounds per year, the equivalent of removing 592 passenger vehicles from the road every year
• More effective equipment and energy management through improved control strategies
• Improved indoor air quality, removing 99.9% of airborne pollutants and bacteria as a result of the UV system
• Increased reliability of physical plant, with equipment that will last up to 30 years

Siemens estimates that BAE Systems will save approximately $300,000 annually through energy and operational savings. These savings are attributed to a 5% reduction in electrical costs and a 69% reduction in natural gas usage.