

# BAE Systems makes energy, infrastructure improvements with help from Siemens and Conserv™ program

Merrimack, New Hampshire – 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. A division of BAE Systems plc, the company's U.S. operations are headquartered in Arlington, Virginia, with operations in 38 other states.

In 2009, BAE Systems realized the need for infrastructure and energy efficiency improvements at its Merrimack, New Hampshire 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.

## Client Objectives

At the Merrimack, New Hampshire facility, BAE Systems had a variety of business goals for its energy efficiency and infrastructure improvement project:

- Implement energy efficiency and CO2 emissions improvements
- Maintain facility at required and desired level with infrastructure improvements
- Make above changes without spending funds from the company's capital budget
- Reduce operating costs associated with maintaining and servicing old, outdated equipment

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

## Siemens Solutions

To achieve BAE Systems business objectives, Siemens designed and implemented the following solutions for the Merrimack facility:

- Lighting retrofits to improve energy efficiency, including occupancy sensors that turn off equipment when not in use
- Demand control ventilation improvements, helping maintain required conditions and optimal CO2 levels
- Compressed air system upgrades and transformer replacement to reduce maintenance costs and contamination risk
- Implementation of an energy policy to control the use of task lighting, computer monitors, printers, and personal appliances to achieve sustainability goals
- Project funding through Siemens Conserv program

BAE Systems recognized that its necessary energy and infrastructure improvements must be completed without having an impact on the company's capital budget. As such, BAE Systems took advantage of Siemens Conserv program. Conserv is a "pay-the-savings" Energy Services Agreement (ESA) that offers Siemens customers access to capital to make investments in facilities that would generate energy and operational savings, for which customers make ongoing payments to a third-party financial partner based on actual, realized energy savings.

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Through Conserv, BAE Systems entered into a ten-year ESA with Siemens and a third-party financial partner, who financed the Merrimack project, including design, engineering, implementation, and commissioning. Siemens worked with the financial partner under an Energy Service Performance Contract to conduct all engineering analysis and to act as a general contractor through the construction phase of the project.

#### Client Results

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

- Reduced operating costs associated with maintaining and repairing equipment, including a compressed air system, numerous lighting fixtures, and a 42-year-old transformer
  - Specifically, BAE Systems has eliminated labor costs associated with relamping light fixtures for the first several years of the ESA. The company has also mitigated cost risks and business interruptions associated with unplanned replacement of equipment.
  - Efficiencies and continued environmental compliance associated with the 42-year-old transformer have also been addressed for BAE Systems.
- Reduced carbon emissions of up to 400 tons per year
- More effective equipment and energy management through control strategies and consolidation of appliances

Siemens estimates that BAE Systems will save approximately \$241,000 annually through energy and operational savings.

These estimates are attributed to:

- 10% reduction in electrical costs
- 12% reduction in heating fuel usage
- 22% reduction in water consumption

BAE Systems will realize operational savings through reduced materials, maintenance, manpower, and other non-energy costs, as well as capital avoidance. Additionally, Siemens estimates a 5% growth rate at the Merrimack facility as a result of the Conserv program.

Siemens Conserv program also helped Merrimack's facilities team win the BAE Systems Silver Chairman's Award, which recognized the efforts made by the facility for sustainability, conservation, and energy efficiency.

“Because of Siemens Conserv program, we have been able to do more energy efficiency and infrastructure improvements – with a longer-term payback period – than we would have done otherwise. Conserv frees up our capital, letting the business make more strategic investments in technology and manufacturing.”

Don Hill  
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