

## **New Hampshire Aerospace and Defense Manufacturer Sees Quick Payback for Energy Investments**

### ***BAE Systems Saves Thousands of Dollars in Energy Costs in NH MEP Pilot Project***

**Concord, NH** – Struggling with the highest electricity costs of any region in the country, New England manufacturers understand the importance of maximizing energy efficiency. A pioneering approach to energy savings, pilot tested in recent months in New Hampshire, offers manufacturers new tools for improving energy efficiency and cutting costs.

The New Hampshire Manufacturing Extension Partnership ([NH MEP](#)), together with the neighboring MEP centers in Massachusetts and Maine, launched a pilot project to test a new approach to energy savings. Collaborating with the U.S. Environmental Protection Agency (EPA) and the NH Department of Environmental Services, NH MEP integrated EPA's energy toolkit into MEP's lean manufacturing program. The goal was to create a far more comprehensive approach to energy savings than the conventional energy audit.

"Our approach integrates energy and environmental metrics into the lean manufacturing methodologies used by MEPs in order to target opportunities for energy savings," said Zenagui Brahim, NH MEP's operations manager. "Unlike conventional methods of reducing energy consumption, this approach identifies manufacturing process inefficiencies that, when improved, can reduce or eliminate the need for energy in the first place."

BAE Systems, Inc., a global defense, security and aerospace systems company, agreed to participate in the pilot program. Jay Fallon, BAE Systems' Continuous Improvement Manager, praised the project's impact.

"What we found by participating in the pilot project was not just that energy savings could be achieved by changes in our production process, but that these changes were the lowest of low hanging fruit. In fact they were fruit that was lying on the ground," Fallon stated.

"We identified \$40,000 in annual energy savings opportunities in our Merrimack plant, which is a 33,000 square foot facility. The pilot project and the follow-up investments we made to achieve the energy savings entailed one-time costs totaling \$48,000. That included \$13,000 for internal labor and consulting costs, and \$35,000 for implementation expenses. The simple payback period on that investment is 14 months," explained Fallon.

"Since undertaking the project, we've already experienced a 12 percent decrease in our energy bill, even though production is up 7 percent," Fallon noted

The impressive results achieved at BAE's Merrimack facility led to today's announcement that the program will now be offered to any New Hampshire manufacturer.

"Our Lean Energy and Environment pilot program represents the next generation approach to lean manufacturing," said the NH MEP operations manager. "The success achieved by BAE Systems and the other participating companies validated the pilot project's approach and demonstrated how rapidly companies can achieve very dramatic energy savings."

Brahim noted that the drive to reduce energy consumption has been augmented by a growing consumer preference for green products. As consumer demand for environmentally responsible products has swelled, an increasing number of retailers and large manufacturers have introduced green supply chain

requirements. The trend is clear: manufacturing success depends on embracing both lean and green.

“One of the benefits of a lean approach to energy savings is that it can quickly generate bottom line results. These are steps that manufacturers can take that do not require long payback periods on the investment,” Brahim stated.

The project’s success in Nashua has BAE Systems management looking to replicate the initiative in other facilities around the country. The aerospace and defense manufacturer has nearly 50,000 employees and is headquartered in Rockwell, Maryland.

“Given the \$40,000 cost savings in Merrimack, we project that more than \$2 million in energy and process improvement savings exist within BAE’s footprint. We also plan to expand the process to include transportation opportunities,” Fallon said. The company has 50 facilities waiting to be “greened,” including 12 others in New Hampshire.

“Green is now part of our Lean Maturity System (or LMS), our standard methodology for deploying lean. We’ve expanded the traditional 5S focus of Lean (Sort, Straighten, Sweep, Standardize, Sustain) to a 7S system that includes Security, Safety and now green savings. We absolutely believe that it brings hard savings and at the same time is the right thing environmentally to do,” Fallon stated.

“For years, MEPs have been showing manufacturers how to streamline and improve operational efficiency with lean training. It makes sense to now include energy and environmental efficiencies as part of our lean transformation program,” Brahim concluded.