**Assessment Overview-**

 



**Latex Paint Manufacturer**

A team of students & faculty from the

**Applications**

**The assessment personnel of the program identified and evaluated opportunities to conserve energy, minimize waste and improve productivity. In this case important opportunities for energy savings were found in lighting upgrades, reduced consumption losses, boiler operation.**

IAC at the University of Delaware performed an industrial assessment for PPG Industries. The assessment was sponsored by the Department of Energy and was led by Center Director Dr. Keith Goossen, a faculty member in the Department of Electrical and Computer Engineering. On March 2nd, 2010 the IAC team employed a comprehensive assessment methodology that considered energy, waste, & process-related improvements. The team examined all large energy-consuming equipment &systems for potential savings. They compiled a waste inventory & investigated the potential for waste reduction or improved disposal/recycling methods. The team also examined manufacturing processes for potential improvements, & emerging technologies were assessed for potential contributions to efficiency improvements.

**Summary**

**Assessment at a Glance**

-Implemented 5/8 of recommendations to save an estimated $169,585 per year

-Implemented recommendations to upgrade lighting, optimize boiler operation, reduce compressed air losses, and repair steam traps

-Payback periods of implemented recommendations range from .4 to 7.1 months, averaging 2.6 months

Through the Department of Energy’s Industrial Assessment Center (IAC) located at University of Delaware, a latex paint manufacturer was able to realize a 23.9% reduction in electricity and 83.4% reduction in natural gas, resulting in a 34.6% overall utility cost reduction.

**Company Background**

PPG Industries has a plant and office in Dover, DE on 254,800 ft2, and produces over 15 million gallons of latex paint each year. At the time of the assessment, the plant consumed about 4,935,386 kWh of electricity and 5,998 MMBTU of natural gas per year. Existing plant Best Energy Practices included an advanced electricity demand and consumption monitoring system and wastewater recycling and reuse.

PPG Industries is a leading manufacturer of high performance and industrial coatings. They produce a wide variety of products including marine coatings, automotive refinish, and industrial coatings in plants worldwide. PPG’s factory in Dover, DE manufactures over 15 million gallons of latex paint each year.



**Recommendations Implemented**

The table below summarizes specific

recommendations that were made

during the assessment and were

implemented or will be implemented

in the near future. These projections of savings & capital costs identified during the assessment have been established through engineering analyses and research. As a result, five recommendations were implemented by the company and are listed below.

**Not Implemented**

It was recommended to de-energize the forklift chargers when not in use. Currently the plant is considering implementation of this recommendation which could save 2,330 kWh/year in electricity consumption, reducing the electricity bill by $190 per year.

**Points of Interest**

Recommendations to improve boiler operation and efficiency and reduce steam losses combined to eliminate over three-quarters of the plant’s natural gas consumption each year. These measures combined to save the plant over 5,000 MMBtu in gas consumption and nearly $75,000 in gas expenditures per year at a cost of only $5,000.

Implemented Recommendations



