Building and Plant Energy Analysis Report
EXECUTIVE SUMMARY

The Milton Hershey School New Supply Center is a single story, 110,000 square foot building located on the Milton Hershey School Campus. Located in Hershey, Pennsylvania, the building's envelope, mechanical systems, lighting systems, and electrical systems must meet the requirements listed in ASHRAE Standard 90.1 – 2004 (ASHRAE 2004) for its climate zone in order to qualify as a energy efficient "green" building. Analysis of the supply center's building materials, equipment efficiencies, and lighting power densities results in the majority of the categories complying with the standard. Table 1 summarizes the results.

Table 1 ASHRAE Standard 90.1 – 2004 Compliance Check

	Building Envelope			HVAC Systems & Equipment				Lighting	Motors
	Wall Insulation	Roof Insulation	Glass U-Value	Chiller COP	Boilers Efficiency	Cooling Towers	Pipe Insulation	Lighting	Motor Efficiency
Result	Complies	Complies	Complies	Complies	Complies	Complies	Does not Comply	Complies except Restrooms	Does not Comply

While the supply center appears energy efficient from the Standard 90.1 analysis, the LEED-NC Green Building Rating System indicates that the project, though currently under construction, has 24 points secured. Accumulating at least two more LEED points will successfully reach the project goal of LEED Certification (26-32 points).

Since the supply center is a single story building and all 14 air handling units are located on raised mechanical mezzanine rooms, no lost rentable space occurs due to the air side mechanical system. The boiler and chiller plant, located on the main floor, consumes 4% of the usable floor area. The entire mechanical systems first cost is approximately $6,000,000 or $54.54/ft^2.

Carrier's Hourly Analysis Program (HAP) performs design load calculations on the supply center. The program then calculates the annual energy consumption and the cost to operate the building. The building simulation program reports that the design air flows for each AHU are very similar to the values stated on the design documents. HAP also calculates that the total annual cost to operate the HVAC systems in the supply center is $145,485. The HVAC operating cost consumes 59.4% of the energy expenses for the entire building.