

Executive Summary

This report is a detailed summary of the existing mechanical systems and equipment for the Clemson University Advanced Material Research Laboratory. Major components and equipment used in the system are explained and analyzed. Design objectives and requirements for the project are also listed in order to fully understand the system.

Included in this report are the design and ventilation requirements from ASHRAE Standard 62.1-2004 for the air handling units. The design cooling and heating loads for the major equipment are calculated using Carrier's Hourly Analysis Program. HAP is used to estimate the annual consumption of energy for the AMRL as well.

Basic schematic drawings of the system were created in order to better understand and describe the existing system. Equipment schedules are also found in this report. A description of the mechanical system utilizes the schematic drawings to describe the system. The building is critiqued according to all the information gathered.