Executive Summary

This report is a detailed summary of the mechanical system for the Central Shared Use Facility (CSUF) located in Silver Spring, Maryland. The building is still under construction, so there is no operating history of the system. The main design requirements of the system was to provide clean, comfortable air to the spaces, and become LEED certified.

The system is supplied by a Central Utility Plant (CUP), which supplies hot water, chilled water, and power. The hot water is supplied by three 9.9 L/s parallel pumps. Hot water is circulated throughout the building to each VAV box, which heat supply air to 35°C during winter. The chilled water is supplied by three 29 L/s parallel pumps, which circulate it to each air handling unit. There are 9 air handling units, each of which has a cooling coil, that cool supply air to 7.16°C. Two rooftop air handlers supply the other seven air handlers with outdoor air.

The indoor air quality is maintained by supplying a minimum amount of outdoor air, but certain spaces may be under supplied.

Aside from the possibility of certain spaces being under ventilated, the mechanical system meets the design criteria, and at an affordable price. The total price of the mechanical system was bid at $3,200,000, only 13% of the total price.