

# AQUIS Drives 28% Reduction in Energy Usage for Prominent DC Area Healthcare Facility

## CHALLENGE

A prominent Washington, DC-based hospital was faced with multiple aging air handling units (AHU) with cooling coils performing well below design intent.

The hospital needed a solution that could restore cooling coil performance and reduce energy consumption. The hospital selected AQUIS to address AHU-13 in order to evaluate the solution.

## SOLUTION

In January of 2019, AQUIS technicians conducted the **AQUIS Coil Restoration Process** on AHU-13.

To verify effectiveness of the process, a measurement and verification analysis was conducted on AHU-13 and a second control unit by an energy engineering consulting firm. The study was performed in accordance with IPMVP Protocol (Option B) and measured six parameters including supply temperature, return temperature and flow rate for both waterside and airside of the cooling coil.

## RESULTS

AHU-13 demonstrated the following performance when compared to the control AHU:

- 28% reduction in energy usage based on volume of chilled water required
- 38% increase in chilled water efficiency
- 13% improvement in airside delivered power using 21% less chilled water
- 8% increase in chilled water temperature differential
- 34% improvement in measured heat exchanger efficiency

Regression analysis of data indicates improved chilled water efficiency at higher temperature loads, such as during cooling season.

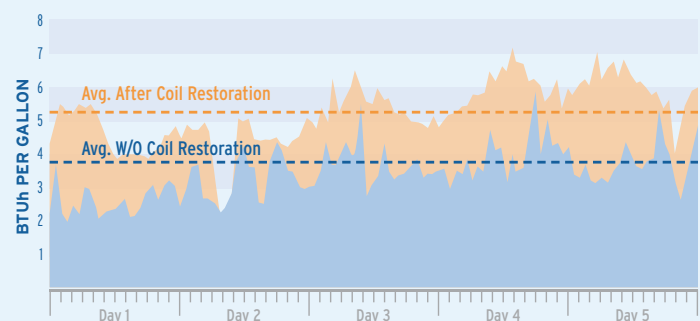


## AHU-13 Performance After Coil Restoration

### CHILLED WATER EFFICIENCY (BTUh/Gal):

The amount of BTUh delivered to the space for each gallon of chilled water.

**+38%  
INCREASE**



### SYSTEM WATER FLOW (Gal):

The amount of gallons of chilled water being circulated through the cooling coil.

**-21%  
DECREASE**

### DELIVERED POWER (BTUh):

The amount of BTUh that the cooling coil is capable of delivering.

**+13%  
INCREASE**



Leaders in Air Handler Renewal