Coil Cleaning Improves Operational Efficiency for Hospital

**Problem**
A hospital in the Central U.S. was experiencing poor performance from the air handling/climate control equipment. The air handling unit (AHU) was not supplying enough air flow at the correct temperature to satisfy comfort requirements in the areas furthest from the unit.

The hospital tried everything to increase the efficiency and capacity of the cooling equipment, with the exception of deep-cleaning the AHU coils. This included adding variable frequency drives (VFDs) to the blower motors to lower overall energy usage and lowering the chill water temperature. Nothing achieved the desired results.

**Analysis**
With the hospital’s approval, Chem-Aqua Services surveyed the air handling equipment on two floors to determine if cleaning would help. The survey revealed that both the supply and return fan VFDs were running at 100%. The fan rooms were very noisy, indicating inadequate air movement through the coils. The coils were completely blinded with debris due to the large amount of outside air required in hospitals. It was determined that removing the debris from the heating and cooling coils would be essential to get flow and capacities as close to manufacture design as possible. Chem-Aqua Services recommended professional coil cleaning to eliminate the air flow, capacity, and energy usage issues.

**Solution**
The customer agreed to have Chem-Aqua Services personnel clean the coils in two AHUs. Two cleaning crews were assembled to meet the tight scheduling requirements that come with working in an active hospital. Upon completing the cleaning and sanitizing process the AHUs were restarted and it was immediately evident the noise had decreased greatly. The AHUs were now operating at a level the hospital had not experienced in years: the units’ energy usage dropped by over 30%, the air flow increased by over 40%, and complaints from patients and staff ceased.

Cleaning the coils in the hospital’s AHUs increased air flow as well as cooling and heating capacity, while significantly reducing the overall energy cost.