Coil Cleaning Produces Huge Energy Savings for Long-Term Care Facility

Problem
A Waco, Texas long-term care facility was experiencing problems associated with degraded efficiency within their HVAC air handler systems. Even with adjusting chiller water temperatures, the building could not provide the desired comfort level to their residents.

Customer stated that the coils and/or AHUs were 15 years old and had never been cleaned. Much of the building was currently struggling with airflow issues, creating many complaints from permanent residents. With the overwhelming increase in day-to-day requirements within the medical industry, the customer struggled to have adequate manpower to perform this critical preventive maintenance. In addition to the need for manpower, access issues complicated the process of performing this cleaning process. Special attention was required to avoid causing any resident inconvenience. Air flow through the coils were measured and found to be less than half of the designed flow rate.

Solution
Coils of this type that have operated without proper cleaning for extended periods of time present a challenge. Initial cleaning, if done improperly, could further impact the coils, block additional airflow through the equipment and place strain on the building cooling system as a whole. The specialty cleaning set-up was adjusted to provide adequate pressure for the coil size and condition. In this type of situation, it is imperative that proper pressures be maintained so cleaning will be successful without damaging the fins. After approximately two hours of washing, the debris in the coil began to turn loose and flow into the drain pan. When cleaning was completed, the air flow through the air handler coil was running near the designed rate.

Results
Progress was made from one section of the hospital to another, during the cleaning process. Throughout this movement, the customer was remarking that the comfort level being experienced by their patrons was much better than they had experienced in many years. Thermostats were being adjusted all over the building. The chiller temperature set point was established back up to design and the humidity in the building dropped significantly to a comfortable level. In addition to increased comfort for the residents, the customer expects to see a significant drop in utility costs in the months and years to come.