

Project Summary

The focus of this visit was gaining an understanding of the store's HVAC system, current performance, and issues to be evaluated by our team for possible improvement. NTAB will have made any necessary changes that would allow for immediate improvement to the equipment's performance. Found below are details regarding each asset and the overall facility. The store consisted of two Trane RTUs, one upblast kitchen exhaust fan, one downblast restroom exhaust fan, and one kitchen hood.

Kitchen RTU

The kitchen rooftop unit is underperforming, achieving 2937CFM out of a 12.5Ton unit. A unit of this size would be expected to output 4375CFM to 5000CFM. As a result, the kitchen is likely to struggle in the summer months when there is increased cooling demand. The fan blower was found to be caked with dirt and debris. This could contribute to the reduced performance of the unit and thorough cleaning is recommended. The motor sheave was also found to be seized and appears to be fully maximized for a B sized belt. Freeing this pulley for adjustments would be beneficial. However, replacing this pulley with a new, larger, motor pulley would be optimal to increase the unit's output.

Dining RTU

The dining rooftop unit is performing within the expected boundaries in terms of airflow. Achieving 4122CFM with a target of 4000CFM. However, two of the flex ducts were no longer attached to the main supply duct upon NTAB arrival. NTAB was able to temporarily secure these accurately measure the airflow in the space and increase comfort. It is still recommended that all flex ducts be secured with both straps and tape to ensure they do not fall off in the future. Anytime these are not attached, there will be significant reductions in space comfort.

Controls

The remote temperature sensors are not performing as intended. The kitchen sensor is reading approximately 3F off in our testing. Measuring 76F with our sensor, while the thermostat displayed 79F. The dining room temperature sensor is responding slowly. This is causing the unit to bounce between heating and cooling. NTAB witnessed the sensor change from heating to 83F all the way down to 64F overcooling. The process then repeats itself. It is recommended to replace both sensors and ensure the wiring is both not damaged and correctly landed.

Kitchen Hood

The kitchen hood and respective exhaust fan are working well. The filters are starting to degrade, with one in particular having a damaged baffle. It is recommended to swap that filter out with a new one and any others that have suffered damage to maximize grease capture in the filters.

Summary of Recommendations

1. Kitchen RTU – Clean blower and blower compartment. Also ensure all unit filters and coils are clean and free of debris.
2. Kitchen RTU – Free up or replace motor pulley with a new one so that sheave adjustments can be made.
3. Dining RTU – Inspect all ductwork for loose/leaky connections. Recommend attaching new tie wraps and tape on flex ducts to prevent leakage.
4. Replace and inspect wiring for remote temperature sensors. Both kitchen and dining sensors are showing signs of failure.
5. Replace damaged kitchen hood filter.