

Technical Summary

The purpose of this visit was to balance two new exhaust hoods installed at the store, as well as perform a total flow air balance and evaluation to seek out any opportunity to improve the comfort and performance of the HVAC system.

There are significant maintenance issues that need to be addressed at this location.

Hood-1, serving the griddle, was found to have its second stage "grease grabber" filters completely clogged and greatly restricting airflow. With the exhaust fan set to max speed, the hood is only exhausting 1170 cfm out of a design of 1500 cfm. The duct and fan themselves are also extremely dirty and in need of cleaning. The Grease Grabber filters need to be cleaned and soaked every night. If this does not improve the airflow of Hood 1, we would recommend purchasing new filters and staying on a strict maintenance schedule once replaced. Once filter issue is resolved, recommend NTAB return to balance hood exhaust.

Hood-2 was found to be exhausting 2310 cfm out of 1500 cfm. The fan was slowed to 6.7v and 1527 cfm, it is now performing well. This hood and fan are also in need of cleaning. Also, it does not appear the flue adapter is installed at the connection between the hood and the fryer.

RTU-1 is a 15-ton unit serving the dining area, and was measured to be supplying 5276 cfm, which is optimal airflow for this size unit. The condenser coils and outside air filters were completely clogged and in need of cleaning. It appears a local tree species must have gone into bloom recently. NTAB was able to quickly wipe down coils while on site. The drive belt was also found loose, this was tightened. Owner stated that outside air was reduced on this unit due to cold customer complaints in the dining room. During winter months, cold air is pushed through the system when the RTU is not in a heating stage. Outside air was increased on this unit by NTAB. The RTU is capable of Fresh Air Tempering, but it is not enabled. FAT should help mitigate cold customer issues. Recommend discharge air sensor installation is verified and Fresh Air Tempering is enabled on both RTUs.

RTU-2 is a 17.5-ton unit serving the kitchen. This unit was measured at 5312 cfm, which is 304 cfm per ton. Ideally, this unit's airflow should be closer to 350 cfm/ton or 6100 cfm. This unit is also in need of cleaning; The condenser coils and outside air filters are completely clogged. These were wiped down by NTAB tech. The bearings for the RTU blower appear to be making some noise and require service. The store manager was notified. The motor sheave is currently frozen and will need to be broken loose to be adjusted. A pulley change may be required to bring the RTU within the design airflow. Recommend consulting NTAB if recommended changes are made to RTU-2 system for full TAB of unit.

There are only 3 diffusers on the cookline. All 3 are high on airflow and disruptive to hood capture. These were installed as 4 ways, but the deflectors were removed on two of the diffusers and used as a large deflector on the other. Recommend existing cookline diffusers are replaced with PERFORATED diffusers, and 3 additional PERFORATED diffusers are installed on the cookline. A total of six diffusers

installed on the cookline, if possible, would be ideal. This will allow the volume of air per diffuser to be reduced and more effectively deliver heating/cooling while not disrupting hood capture. A diffuser serving the back room was found not connected to the supply duct. The damper for this diffuser was shut until it can be reattached.

The restroom fan is not operational and needs service or replacement.

There are several other items and issues mentioned in the report below. Please let us know if you have any questions or concerns. Cleaning or replacing the second stage filters on HD-1, should greatly improve hood capture. We recommend consulting NTAB to remeasure and balance hood exhaust if filters are replaced. Additionally, making changes to the cookline supply diffusers, and increasing the airflow of RTU-2, should greatly improve the comfort of employees as well as hood performance. Addressing these two items as well as the other items mentioned should improve your store's comfort and efficiency.