

Overall Summary and Recommendations

The scope of work was to complete a Test, Adjustment, and Balance of Mark's Feed Store in Elizabethtown KY. The store was observed to have a very negative building pressure on arrival. This was largely due to all the Rooftop Unit Economizers being closed. These were able to be opened by the NTi technician to bring in approximately 20% outside air through each unit. This improves the pressurization of space without reducing unit performance.

The hood Make-Up Air unit was found to be under-performing. The airflow through this unit was able to be increased, but not to the extent necessary to positively pressurize the space. This was due to dirty intake filters and a dirty Perforated Supply Plenum at the hood system itself. Once the Make-Up Air unit intake filters are replaced and the PSP screen is cleaned, it is expected the space will be positively pressurized as designed. To properly clean the PSP, it will need to be dropped and cleaned from the inside-out.

It is recommended to add an occupied signal from the thermostats to the rooftop units to allow the economizers to open when the store is occupied, and close at night when the store is closed. Replacing the MAU intake filters and cleaning the hood Perforated Supply Plenum will further improve store building pressure. Lastly adding transfer grilles to the entry vestibules will aid to relieve excess pressure in these rooms.

Technical Summary

- Initially observed severely negative building pressure (-0.253" average).
- MUA filters are overly dirty along with plenum preventing MUA from delivering the correct amount of air to kitchen.
- All economizers for each RTU were 100% closed. Observed that wire was not landed in occupied port on the thermostat strip. Installed jumper ensuring economizer damper functions as designed. Increased net airflow from -3501 CFM to -250 CFM.
- Building pressure shifted from -0.253" to -0.074".
- Recommend deep cleaning of MUA plenum.
- Recommend installation of transfer grilles connecting the entry vestibule to rest of space, neutralizing pressure inside vestibule