

SUMMARY/FINDINGS (Applebees-Portsmouth, Ohio):

Upon arrival, I interviewed the Managers, Cooks, & Dining room employees. Several areas of concern.

1. Severe negative pressure in building
2. Sometimes a sewer smell on right side of dining
3. Always hot in Kitchen & office. It would be 85-90 in summer time in back of house even with thermostat set to 70 degrees. (This was the biggest complaint that was common with all employees was the hot back of house).

The facility was designed to have exhaust only hoods & then oversized addition tonnage of HVAC/RTU units to allow for all the outside air to be provided through the outside air of the combined RTU units to bring the building into balance. The hood systems worked sufficiently. The original hood's Melink energy management controls was bypassed due to malfunction & new starters were installed in replace of the VFD's. The facility also has a 6ft dishwasher hood & a toilet exhaust fan. The enclosed you will find additional pictures with notes in respect action items that are listed below in more detail.

The following action items was performed or should be performed to improve overall performance & comfort to the building.

1. Extend exhaust fan discharge (windband on 2 fans) to get the smoke & affluent up higher above the parapet & RTU units.
2. Rebalance the outside air for all RTU units. Once the fan discharges are raised, allow to open the outside air for the kitchen unit which is needed. Also, 3 of the 4 economizers do not function properly. Due to the age of units, it may be best to have TAB firm change the economizers to Fixed manual OA dampers & set them at there proper setting for each unit based upon location & size of unit.
3. Dish fan exhaust was reduced to help with overall total amount of exhaust out of building.
4. A end panel on right side of hood 36x32x45 could be installed on right side of hood to allow for better heat capture on front of hood. This is not absolutely required, but would just improve performance.
5. Finally, the most important issue is to review the Kitchen RTU unit cooling systems. It is believed the unit has not cooled for some time. Is the unit able to be fixed? If not, it would need to be replaced to resolve the BOH comfort. Either replace with a new RTU like unit or a new DOAS-RTU could be installed that can handle Most of the outside air for all the hoods & yet comfort at or better than a standard RTU unit. This would allow for the outside air in dining to be reduced or closed on completely on some of the units. The DOAS-RTU is definitely more costly upfront cost, but is a more energy effective & better comfort direction than just replacing the unit with a similar unit. However, either direction would resolve the issue. See enclosed pictures. If the units cooling can be fixed, it is recommended to also fix the access door to the electrical control panel. It is very difficult to get on & off with one person & is in pretty rough shape. It is believed the unit is just over 15 years old. The life of this unit has been degraded due to being close to the exhaust fans & also providing (at one time) a lot of outside air for the space.

I was able to temporarily fix the building pressure some by opening the OA damper on the large RTU unit in dining & and slowing exhaust on dish hood a little. However, ideal is to properly balance outside air on units based upon what direction the team decides to go. NTAB can assist in procuring the product needed to replace or modify any of the items if need assistance.