

## Project Summary

The scope of work here is to rebalance four RTU's, all associated FPB's, and all associated air devices. TAB was previously performed in 2023 but since then the RTU's had been moved to another side of the building and the control system was also changed out.

RTU's 1 and 2 are variable systems with Fan Powered Boxes (FPB's) that serve the first floor. To calibrate the FPB's, the FPB dampers were opened up one at a time to full open position. The controls program was too slow to respond to calibrate during max cool. Once max cool was calibrated then the damper was driven to min cool and the airflow was reported. Then the unit was driven to heat and the fan was balanced using the potentiometer.

After all boxes were calibrated, the FPB's were opened to their max open damper position and the RTU's were read out and total flow balanced. The minimum OA damper position was then set for each unit.

RTU's 3 and 4 are constant volume units that serve the second floor. The RTU's were measured by performing a total traverse and then reading the individual grilles with either a flow hood or rotating vane and K factor. The airflow on both RTU's was low. Per the original report, the airflow could not be sped up to design without causing the fan pulleys to fall off the shaft. The RTU's were also designed for a high ratio of outside air. This was reduced to a 25% ratio and was also proportionally reduced to help ensure that there were no performance issues with the equipment.

## Remarks

1. RTU-1 outside air damper linkage was broken so the damper had to be set manually. The position was marked with a permanent marker so it can be set there once functional.
2. The control software for RTU's 1 and 2 in general was very slow to respond. We were able to work around during TAB to get boxes calibrated. But there is some concern that there could be delays in calls for cooling/heating.
3. FTU-12 and 14 are a low on heating flow with the fan speed maximized.
4. RTU-3 airflow was balanced to 9864 CFM out of design of 12000 CFM. RTU-4 was balanced to 9648 CFM out of 12000 CFM design. Per the original TAB report, the fan speed could not be increased above these limits without causing the fan pulley to fall off. At the time of the original TAB report Daiken was consulted and they said to leave the units low on flow. No performance issues noted with the equipment, but if there are issues due to the low flow recommend consulting Daiken on next steps.