National TAB

Project Summary

The scope for testing at the Supervision Center Building in Hannibal MO was to balance the water for 3 new coils, 2 pumps, and 1 chiller.

There are three chilled water coils. One serves each AHU in the building. Each pump is sized to handle the load between all three coils so it was confirmed that during testing only one pump was running at a time. The pumps modulate speed based on a pressure setpoint. There were no circuit setters installed for any of the AHU's. They each have an actuated temperature control valve that modulates based on the discharge air temperature of the AHU. There is a bypass between the pumps that modulates to maintain flow to the chiller.

To test the system, the actuated control valves were positioned 100% open, the bypass was positioned to the closed position, and the pumps were set to constant speed. The initial speed was 82%.

Since there were no balancing valves installed on the AHU's, the flow to AHU was measured by taking the actual pressure drop across the coil vs the design pressure. The sum of these three flows is equal to the total flow for the pump. The initial flow was 142 GPM. The pump speed was increased to 94% and the flow was then within tolerance of design at 165.9 GPM.

The pressure setpoint was initially 8 PSI. To achieve design flow the setpoint was increased to 10 PSI in the BAS. After completion of testing, all the overrides were released.