



The facility personnel implemented these recommendations and are now saving 35.8% of their baseline energy usage every year

Pearson Engineering, LLC

14 Ellis Potter Ct.
Madison, WI 53711-2478

608.274.3339
Fax: 608.274.0373
www.pearsonengineering.com

Aurora Forest Home – Site Visit Notes March 10, 2009 Brian Basken

1. Energy use in 2009 is 13% lower than the 2008 model.
2. Building is an old grocery store converted to offices.
3. HVAC is provided by many rooftop units. VAV boxes are controlled by multiple Trane Tracer system. To modify or view these devices, a laptop must be plugged in locally.
4. Programmable thermostats have been installed recently to shut down units at night.
5. Separate small AC systems in the data closets.
6. The north interior spaces are served by a constant volume AHU with electric reheat. New Trane stand-alone t-stats with night setback for electric reheat.
7. North perimeter is served by approximately 10 VAV boxes, controlled by a Trane Tracer system. There is no clear return air path. The return air duct for this system is in the adjacent space.
8. South is served by VAV systems.
9. Some perimeter electric heat below glass in west side.
10. An adjacent company to the east creates a lot of dust and diesel that clogs filters and coils.
11. Three lighting control panels. Could 50% of the lights be turned off at 5:00 pm?
12. Have some comfort problems with the large round diffusers dumping air on people. Some effort has been made to solve these problems by adding grills to the sides of the ducts.
13. We found a VAV box where the temperature sensor read 60F in an interior space, and the box was in full heat. The sensor temperature was being affected by the cold air coming down the column.
14. A high capacity toaster oven operates at full heat continuously and nobody uses for long periods of time. There could either be a more efficient toaster or some sort of time of day or occupancy control on this device.
15. Recommendations: Many of the fan systems start between 4:10 am and 5:20 am. This seems very early for an office space. There may be opportunity to reduce the number of operating hours. Systems operate a lot on weekends. Are all of these systems required to operate in order to keep the occupants comfortable during light times of light load?



16. Recommendations: Verify all VAV boxes are working correctly, and reduce the minimum CFM as much as possible to reduce or eliminate excessive reheat energy. Look into locking out the electric reheat in the summer in large open office areas. We have successfully eliminated reheat in large open office areas at a large insurance company in Madison, and verified good air quality with an industrial hygienist. The existing VAV box control system should be able to accomplish this, although verifying that it is working properly will be inefficient because the system cannot be remotely monitored.
17. Recommendations: Controls are simple and relatively standalone. The maintenance staff does not have the ability to remotely monitor any of these systems. Honeywell has recently come out with a programmable thermostat that can be wired together and connected to an inexpensive module that provides web access to all thermostats. It provides all of the normal functions that a more expensive DDC system would provide. I recommend having a Honeywell rep. visit this site, explain the product options, and get you a price to install these devices. I don't know if they have a simple VAV box controller that can interface with this system. Ideally the VAV boxes and Rooftops that serve them can communicate with each other.
18. Recommendations: Remote connection to the Tracer system is possible if the laptop connected to this system is left on, connected to the Aurora lan, and a remote control software like PCAnywhere is used.