

## TOUR OF FOREST AVENUE HEATING PLANT EQUIPMENT



This is the 750 Ton York chiller with variable frequency drive. The variable frequency drive runs the chiller at only the speed necessary to do the job, which is to make 42 degree water. This is a big energy savings over the traditional chiller which is either on or off.



These are two 800 HP Cleaver Brooks boilers which make 50 pound steam to heat the entire central campus. One boiler will heat campus up to 0 degree days before the other is needed. These boilers also provide steam to heat domestic water, to cook and humidify some buildings on campus. Previous to the plant remodel the same job was done with 1200-2000 HP boilers.



This is the same model of boiler but in the 350 HP size. We use this boiler in the summer to give the 800 Cleaver Brooks boilers a break for maintenance, and to save energy. Steam is still needed to cook and make domestic hot water as well as to keep the system hot for preservation of the underground piping.



The control for the York chiller is a touch screen interface which actually shows an animation of fluids flowing as well as all the status information. This information is also fed to the building automation system which can be viewed remotely on campus.



The high voltage distribution center was installed in the 80's. It provides the incoming MidAmerican Energy interface to the campus. At this point Drake Facilities is responsible for all the high voltage and secondary (user) voltage on campus. By purchasing power at the primary voltage level (13,200 volts) Drake can cut their electrical energy bill by 40%. The trade off is Drake absorbs the cost of the equipment, maintenance and depreciation.